Government
Publications

90874

SESSIONAL PAPERS.

90874

VOLUME XI.—PART IV.

FOURTH SESSION OF THE THIRD PARLIAMENT

OF THE

PROVINCE OF ONTARIO.

Session 1879.

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No. 19.. A Return for the years 1876 and 1877, of all orders issued by the Court of Chancery, appointing Guardians *ad litem* to infants, lunatics, and to all other persons under disability, and the names of the Solicitors so appointed ; also, a Return of all Bills of Costs taxed during the above two years in the Court of Chancery for Guardians *ad litem*, giving the amounts of the Bills brought, the amounts allowed, and the names of the Solicitor and Guardian *ad litem*, in each case ; and shewing also the amounts disbursed by such Solicitor and Guardian *ad litem*, in payment to Agents, to the Fee Fund, to Sheriffs, and otherwise ; also, a Return of the amount at the credit of the Suitors' Fee Fund during these years, and the amounts paid out of said Funds, and to whom paid.

No. 20.. Return shewing with respect to the General Hospitals of Hamilton, Kingston, London, Ottawa, Toronto, and the other cities and towns in which Hospitals have been established, the amounts received during 1877 from each municipality in payment of patients' maintenance and from patients resident of said cities and towns ; income from property belonging to Hospitals ; value and description of said property ; fees charged to residents ; fees charged to non-residents ; also, shewing the position of any funds held by the City of London and the County of Middlesex for Hospital purposes. Also, a copy of the agreement between the City of London and the County of Middlesex with reference to such fund.

No. 21.. Copies of all receipts given by individuals for compensation for lands to the Commissioners appointed to settle the Boundary line between the Provinces of Upper and Lower Canada, now the Provinces of Ontario and Quebec, in virtue of the Act of 1860. Also, for the names of persons to whom conveyances have been made, and the numbers of the lots so conveyed by said commissioners, in virtue of sub-section 1 of section 4, of 23 Vic. cap. 26, so far as the same may be found in the Department of the Commissioner of Crown Lands. (*Not Printed.*)

No. 22.. North-western Ontario ; its Boundaries, Resources and Communications.

No. 23.. Report of the Board of the School of Practical Science ; the prospectus and regulations of the School, and syllabus of the course of instruction therein.

No. 24.. Special Report upon the operations of the Depository Branch of the Education Department for the years 1876 and 1877.

No. 25.. Copies of the Writs of Elections for the Return of Members to represent the Electoral Divisions of Algoma and Muskoka respectively, at the last General Election for the Province of Ontario. (*Not Printed.*)

No. 26.. Report of the Counsel of University College, Toronto. (*Not Printed.*)

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No. 28.. Return of all accidents and casualties (whether to life or property), which have occurred on the railways in the Province of Ontario, under the jurisdiction of the Legislature of the Province, for the year 1877, which shall set forth the names of the respective companies; the cause and nature of such accidents and casualties; the points at which they respectively occurred, and whether by day or night; the full extent thereof, and all the particulars of the same. (*Not Printed.*)

No. 29.. Copies of all correspondence between J. B. McWilliams, or John McDonald, or others, and the Commissioner of Crown Lands, or any officer of the Crown Lands Department, relative to the seizure of certain lumber of the said McDonald, or of Messieurs Gilmour & Co., for alleged non-payment of timber dues; and Copies of all receipts or vouchers for the payment of the dues or any portion thereof, for the non-payment of which such seizure was made. (*Not Printed.*)

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No. 32.. Statement of Statistics contained on pages 18, 24, 30 and 40 (for Cities) of the Report of the Honourable the Minister of Education for the year 1876.

No. 33.. Copies of all correspondence, affidavits, or papers, filed in the office of the Attorney-General, from any person or persons, respecting the south half of lot number fourteen in the tenth concession of the Township of Tecumseh (part of the Mercer Estate), or from any person or persons claiming the right to purchase the said half lot. (*Not Printed.*)

No. 34.. Copies of all correspondence, Orders in Council, or other documents relating to the transfer of the Trent River Works from the Government of the Dominion to the Government of this Province.

No. 35.. Statement of the number of applications for loans which have been made under the Tile Drainage Act of 1878, the Municipalities by which applications have been made, the sums actually paid out of said fund, and the Municipalities to which said payments have been made. (*Not Printed.*)

No. 36.. Return of all moneys received by the Bursar of the School of Agriculture and Model Farm from the sale of stock, crops, or other produce in each year since the organizing of the School; all payments made by the Government, or any officer of the Institution for stock, seeds, implements or other supplies for the Farm or School during that time, specifying each year; and a list of all stock, crops and implements at present on the farm, giving the value thereof. (*Not Printed.*)

No. 37.. Copies of the Reports of the Inspector of Registry Offices on the Welland Registry Office for the years 1877 and 1878. (*Not Printed.*)

No. 38.. Copies of Orders in Council directing that the Ladies' Benevolent and Temperance House in St. Thomas, and the Refuge for Fallen Women in Toronto, be named as Charitable Institutions under the Charity Aid Act. (*Not Printed.*)

No. 39... Return shewing in detail the expenditure each year since 1867 on account of the settlement of the Northerly and Westerly Boundaries of the Province, and the Arbitration in reference thereto, with the names of the persons to whom and what account the payments were made, and the rate of such payments.

No. 40... Reports from Mr. I. Korman, as Commissioner at the Paris Exposition of 1878.

No. 41.. Return of all moneys collected by the Province of Ontario since Confederation, from sale of School Lands.

No. 42.. Copy of a Report of the Committee of the Honourable the Privy Council of the Dominion of Canada, and of an Order in Council of the Province of Ontario, having reference to the appointment of an Arbitrator in the room and stead of the Honourable William Buell Richards, in the matter of the Northern and Western Boundaries of the Province of Ontario.

No. 43... Answers of the Judges as to the jurisdiction and practice of the Division Courts, and other amendments to the Law.

No. 44.. Return in the matter of the buildings, erections, drains, and other works done or contracted for in connection with the Deaf and Dumb Institute at Belleville, for the year 1877, setting forth—1. All tenders for said works. 2. All contracts entered into for the same. 3. All claims for extra work. 4. All amounts allowed on claims for extra work. 5. All claims for extras allowed. 6. All claims for extras in course of adjustment. 7. What sums are yet required for the completion of works so undertaken. (*Not Printed.*)

No. 45.. Statement shewing the amount of Provincial money on deposit in any of the Banks; the name of such Bank or Banks, the respective amounts so deposited; the amount drawing interest, and at what rate; also, the amount and rate of interest received on deposits by the Province in each year from the year 1867 to 1877, both inclusive. (*Not Printed.*)

No. 46.. Copies of all communications, correspondence and negotiations connected with the hypothecation of certain Dominion Stock, to the amount of £149,000 sterling, during the year 1877, stating the amount received on such hypothecation; the rate of interest; the amount of commission for negotiating the loan; the specific time (if any) for which the loan was made; the market value of said stock at the time of hypothecation; the market value of the said stock at the first accrual of interest thereon after such loan, and the present value of said stock. (*Not Printed.*)

No. 47.. Report of Queen's Printer on tenders for Departmental and Legislative printing and binding, and contract with Messieurs Robinson and Warwick.

No. 48.. Return of the names and rates of pay of each Sessional Clerk and Messenger employed during the Session of 1878; and the names and places of residence and rate of pay of all Sessional Clerks and Messengers employed at the present Session, designating such persons as are employed this Session for the first time. (*Not Printed.*)

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No. 51.. Return shewing the amount earned by the *Ontario Gazette* from Government notices and from other advertisements, and from subscriptions respectively. Also, the cost of printing and the balance due to the Government remaining in the printers' hands on the 31st of December, in the years 1873, 1874, 1875, 1876, 1877 and 1878 respectively. Also, balance in hands of Messrs. Hunter, Rose and Company on 31st January, 1879.

No. 52.. Report of Dr. May, Superintendent of the Depository Branch of the Education Department upon the subject of the exhibit of this Department at the Paris Exposition of 1878. (*Not Printed.*)

No. 53.. Statement shewing in detail the total amount received by the License Commissioners of Cardwell for Tavern and Shop Licenses, and fines for infringement of the License Laws, during the year 1878; also, showing in detail all payments out of the License Fund of Cardwell since the 1st of May, 1878, the person or persons to whom, and the authority on which such payments were made, and the amount of the balance in hand on the 1st day of January last. (*Not Printed.*)

No. 54.. Return shewing value of the Public Buildings belonging to the Province, and Insurances thereon.

No. 55.. Copies of the Minutes of all the Meetings of the Senate of the University of Toronto, held during the years 1877 and 1878, giving names of all persons present at each of such meetings.

No. 56.. Copies of all papers and documents of any kind whatsoever, relating to the claims of William Quigley, of the Township of Lutterworth, against the Crown Lands Department, except such papers as have already been brought down. (*Not Printed.*)

No. 57.. Return showing the names of all Magistrates at present on the Commission of the Peace; the date of their several appointments; the date of their qualification; and the counties for which they are respectively appointed. (*Not Printed.*)

No. 58.. Return of all moneys received by the Provincial Treasurer during the years 1874, 1875, 1876, 1877 and 1878, as fees forfeited by Division Court Bailiffs—such return to give the name of the bailiff forfeiting such fees; the name of the Division Court clerk to whom such fees were paid; the style of cause in which such fees were forfeited, and the amount of each forfeit separately (*Not Printed.*)

No. 59.. Certain information in regard to the employment in the Central Prison of prisoners who have served a term of imprisonment in that establishment. (*Not Printed.*)

No. 60.. Return shewing the number of prisoners flogged in the Central Prison during the years 1878 and 1879, up to the present date; by whom so sentenced, if any were, whether by the judges or by the warden of the prison, and for what offence; together with a copy of the by-laws and Orders in Council under which corporal punishments are administered. (*Not Printed.*)

No. 61.. Statement of receipts, expenditure and assets of the Mercer estate, in pursuance of the Statute, 41 Vic., cap. 1, in that behalf. (*Not Printed.*)

No. 62.. Return shewing the quantity in pieces and feet of all Saw-logs, Square and Waney Pine Timber returned to the Crown Lands Department, as cut in public and private lands respectively, for each of the years from 1868 to 1877 inclusive.

No 63.. Return shewing the amount of money now in possession of the Court of Chancery unclaimed for five years by the parties entitled to the same. (*Not Printed.*)

No. 64.. Report of the University of Toronto, for the Academic year 1877–1878. (*Not Printed.*)

No. 65.. Copies of all correspondence between any Member of the Government and the License Inspector for the County of Dundas, or any other person, in reference to any prosecutions that have taken place in the said county under the License Act during the years 1877 and 1878. (*Not Printed.*)

No. 66.. Copies of all correspondence between any Department of the Public Service and the municipalities of Raleigh and Tilbury East, or either of them, with reference to the cost of the Licensing system in the West Riding of Kent. (*Not Printed.*)

No. 67.. Report of the School of Practical Science, and the former College of Technology; also, Copy of the Order in Council approving of Rules and Regulations, and the arrangement with University College.

No. 68.. Return of decisions of the Court of Appeal upon cases under the Act of finality to Voters' Lists.

No. 69.. Copies of all correspondence and papers respecting the appointment or re-appointment of William Hughes as Inspector of Licences for the Electoral District of Cardwell. (*Not Printed.*)

No. 70.. Return shewing the number of appeals to the Court of Appeal in this Province, including County Court Appeals, and the number of appeals from this Province to the Supreme Court, shewing in each case of appeal for the last two years the amounts claimed; the costs incurred; the nature of the action; and the result of such appeal, so far as these particulars appear from the fyles of the Courts. (*Not Printed.*)

No. 71.. Return shewing comparatively the Volume of Business done in each of the Departments of the Government during each year from 1868 to 1877 inclusive; classified as far as practicable under general heads, in accordance with the terms of two Resolutions of the Legislative Assembly.

No. 72.. Statement of the names of all persons who have, since Confederation, received Appointments or promotions in the public service, with the dates of the appointments, and the names and emoluments of the officers; also,

whether such position is temporary or otherwise, and if temporary, shewing the duration of service; also, shewing any increase or decrease in emoluments of officers; and also, shewing the authority under which such appointment or changes have been made. (*Not Printed.*)

No. 73... Copies of all correspondence in the matter of Hooper *vs.* Scott (charged with forgery) between the Honourable Attorney-General Mowat and W. A. Reeve, Esquire, County Attorney, and Scott the said defendant; also, Copies of all letters from the said W. A. Reeve and the said Scott, to the Honourable Attorney-General, together with Copies of all other correspondence and papers, if any, in possession of the Government in reference to the said matter. (*Not Printed.*)

No. 74.. Return shewing such counties as have availed themselves of the law giving them the right of appointment and using Valuators in room of Assessors. (*Not Printed.*)

No. 75.. Return from the several counties of the Province, shewing the number of appeals during the past two years to the General Sessions, from convictions or orders, under the Master and Servant Act, or any other Act of the Legislature of Ontario, under which there is an appeal to the said Sessions; the amount of the fine and costs, or sum ordered to be paid by the convicting Justice in each case, the costs incurred in the General Sessions in each case, and the nature of the order or conviction appealed from. (*Not Printed.*)

No. 76.. A Summary of the Arguments of Council before the Arbitrators upon the Northerly and Westerly Boundaries of the Province of Ontario.

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No. 77.. Return shewing the receipts of the Province of Ontario from the various sources of Revenue; also the expenditures of the Province on account of the various sources authorized by the various Supply Bills or Acts of the Legislature, from 1st July, 1867, to 31st December, 1878.

No. 78.. A Return shewing the number and names of Guards and other officials discharged from the Central Prison since it was first opened, the offence for which they were dismissed, the names of those who were first dismissed and were afterwards either reinstated or transferred to other positions under the Government, the position to which they were so transferred, what sums were given by Government to defray the expenses of transferring them and their families. How many of the Guards or other officials have been fined, for what offence, what sum such fines amount to, what has become of the money accruing from such fines. The amount of money paid to dismissed officials over and above their salaries, and why such moneys were so paid them. The number of nights the Warden of the Prison has been absent from his duties, by whose order or permission, and how often without leave having been first obtained for such absence. (*Not Printed.*)

No. 79.. Municipal Statistics for the Province of Ontario, for the year 1877.

No. 80.. Copies of correspondence between the Honourable the Secretary of State (Canada), and the Honourable the Provincial Secretary (Ontario), respecting the Legislative enactment to give effect to the award made by the Arbitrators to determine the Northerly and Westerly boundaries of the Province of Ontario.

No. 81.. Return from each city, town, incorporated village, and township (so far as heard from), shewing the amount placed on the Collectors' Rolls, for collection for the years 1871 and 1878.

No. 82.. Return shewing all correspondence and affidavits filed in the Crown Lands Department, in reference to E. Lepard's application to purchase the North half of lot No. 14, in the 12th concession of the Township of Mara; also, all rulings of the Commissioner of Crown Lands, respecting the sale and issue of the Patent for said land. (*Not Printed.*)

No. 83.. Copies of all correspondence between the Government or any of the Departments thereof, with Mr. Grace, formerly a License Inspector for the South Riding of Brant, relating to the working of the Temperance Act of 1864, in that Riding, or his position as a License Inspector, or his resignation thereof. (*Not Printed.*)

No. 84... Return shewing the expenditure in the various Departments and Offices of the Government for Expenses and Contingencies for the years 1868, 1871 and 1878.

DETAILED STATEMENT

Of all Bonds and Securities recorded in the Provincial Registrar's Office since the last Return submitted to the Legislative Assembly upon the 28th day of January, A.D. 1878, made in accordance with the provisions of Statute of Ontario, 32 Vic., cap. 29.

By Command,
ARTHUR S. HARDY,
Secretary and Registrar.

Provincial Registrar's Office,
Toronto, 28th February, 1879.

Detailed Statement of all Bonds and Securities registered in the Provincial Registrar's Office since last Return.

Submitted to the Legislative Assembly, made in accordance with 32 Vict., cap. 29, sec. 15.

Name of Principal.	Office of Appointment.	Names and Residences of Sureties in Bond or Covenant.	Date of Bond or Covenant.	Penalty in Bond or Covenant.	Remarks.
				$ c.	
James Morris	Sheriff of the County of Renfrew	.....	12 April, 1878 ...	4000 00	
		a Michael O'Meara, Pembroke .	.....	2000 00	*a* Substituted in the place of Wm. Moffatt.
		Christopher O'Kelly, Tp. do .	.....	2000 00	
John Hossie.....	Sheriff of the County of Perth .	.....	9 March, 1878 ...	4000 00	
		a John Corrie, Stratford	.....	2000 00	*a* Substituted in the place of John A. McCulloch.
		John Idington, do	.....	2000 00	
Robert Henry Davis ..	Sheriff of the County of Haldimand	.....	2 October, 1878..	4000 00	
		Adam A. Davis, Vil. York	.....	2000 00	
		James Kyffin, do	.....	2000 00	
Geo. Crawford McKindsey	Sheriff of the County of Halton	.....	31 October, 1878.	6000 00	
		Charles H. Thompson, Tp. Trafalgar.....	.....	2000 00	
		a John Clements, Tp. Trafalgar	.....	2000 00	*a* Substituted in the place of Wm. McKindsey.
		Benjamin Tuck, do ..	.....	2000 00	
Thomas Racey.....	Registrar of the County of Halton	.....	13 April, 1878 ...	4000 00	
		a Finlay McCallum, Tp. Esquesing.....	.....	2000 00	*a* Substituted in the place of Socrates Center.
		b Wm. Dempsey, Tp. Trafalgar	.....	2000 00	*b* Substituted in the place of J. S. Halton.
William C. L. Gill	Registrar of the City of London	.....	28 May, 1878	4000 00	
		Joshua D. Dalton, London....	.....	3000 00	
		a John Christie, do	.....	3000 00	*a* Substituted in the place of Ellis W. Hyman.
Robert Armour	Registrar of the West Riding of Durham	.....	26 November, 1878	6000 00	
		Wm. McMurtry, Bowmanville..	.....	3000 00	
		a Wm. Barton, Tp. Darlington.	.....	3000 00	*a* Substituted in the place of Samuel B. Bradshaw.

John Bell McGuin	Deputy Clerk of Crown and Clerk of County Court, Counties of Lennox and Addington	.....	16 February, 1878	1000 00	
		a Matthew W. Pruyn, Napanee.	.....	500 00	*a* Substituted in the place of John T. Grange.
		b Frederick C. McGuin, Tp. Ernestown	.....	500 00	*b* Substituted in the place of Robert Downey.
Daniel McDonald	Deputy Clerk of Crown and Clerk of County Court, County of Huron	.....	7 January, 1879..	1000 00	
		Wm. H. McFadden, Goderich..	.....	500 00	
		Edward Ellis Wade, do ..	.....	500 00	
Frank Arthur Foley ...	Registrar of the District of Parry Sound	.....	1 December, 1877	2000 00	Covenant.
		a Canada Guarantee Company.	.....	2000 00	*a* Substituted in the place of Patrick McCurry and Geo. McLean.
Ormond Jones.....	Registrar of the County of Leeds	.....	1 February, 1878.	2000 00	Covenant.
		a Canada Guarantee Company.	.....	2000 00	*a* Substituted in the place of John Horton and Frederick Schofield.
James Ferguson	Registrar of the City of London	.....	1 July, 1878	4000 00	Covenant.
		a Citizens' Insurance Company	.....	4000 00	*a* Substituted in the place of Thomas Ferguson and Robert Ferguson.
Donald F. Campbell...	Registrar of the County of Peel	.....	1 June, 1877	2000 00	Covenant.
		Citizens' Insurance Company..	.....	2000 00	
Edward Handy	Crown Land Agent.....	.....	8 February, 1878.	2000 00	Bond.
		Thomas McCrosson, Toronto..	.....	2000 00	
		Matthew O'Connor, do ..	.....	2000 00	
Alexander Kennedy ...	Bursar of the Orillia Asylum ..	.....	1 February, 1878.	3000 00	Bond.
		The Canada Guarantee Company	.....	3000 00	
John Edward Berkeley.	Bursar of the University of Toronto	.....	10 May, 1878....	5000 00	
		Francis Richardson, Toronto ..	.....	2000 00	
		Allan McLean Howard, do ..	.....	2000 00	
John Cavanagh	Police Constable, Silver Islet ..	.....	6 February, 1878.	1000 00	
		James Cavanagh, Tp. Trafalgar	.....	500 00	
		Thomas Patterson, Oakville ...	.....	500 00	
John Bell McGuin	Registrar of Surrogate Court of the Counties of Lennox and Addington	.....	15 February, 1878	800 00	
		Edmund Hooper, Napanee	.....	400 00	
		Thomas S. Henry, do	.....	400 00	
James D. Whaley	Clerk of the Fifth Division Court, County of Perth	.....	17 May, 1878....	2000 00	
		James Troy, Shakespere	.....	1000 00	
		a John Freeborn, Millbank....	.....	1000 00	*a* Substituted in the place of Thomas Whaley.

DETAILED STATEMENT of all Bonds and Securities registered in the Provincial Registrar's Office since last Return.—*Continued.*

Submitted to the Legislative Assembly, made in accordance with 32 Vict., cap. 29, sec. 15.

NAME OF PRINCIPAL.	OFFICE OF APPOINTMENT.	NAMES AND RESIDENCES OF SURETIES IN BOND OR COVENANT.	DATE OF BOND OR COVENANT.	PENALTY IN BOND OR COVENANT.	REMARKS.
John Shields	Clerk of the Second Division Court of the United Counties of Prescott and Russell	.....	20 October, 1877.	800 00	
		John C. Potter, Tp. W. Hawkesbury.....	.....	400 00	
		Alexander McVicar, Tp. W. Hawkesbury	.....	400 00	
George Manning Furby	Clerk of the Third Division Court of the United Counties of Northumberland & Durham	.....	2 March, 1878 ...	100 00	
		George B. Salter, Port Hope ..	.....	50 00	
		James Robertson, do ..	.....	50 00	
Charles Kreissman....	Clerk of the First Division Court, District of Thunder Bay	.....	5 February, 1878.	1000 00	
		George F. Duggan, Prince Arthur's Landing	.....	500 00	
		James Flaherty, Prince Arthur's Landing	.....	500 00	
Edward Roblin	Clerk of the Fourth Division Court, County of Prince Edward	.....	.....	2000 00	
		Owen Roblin, Tp. Ameliasburgh	.....	1000 00	
		Sylvanus Sprague, do ..	.....	1000 00	
James Barker Garratt..	Clerk of the Fifth Division Court, County of Prince Edward	.....	25 September, 1878	400 00	
		Gilbert P. Dorland, Wellington	.....	200 00	
		Amos Garratt, do ..	.....	200 00	
Jason S. Tice.....	Bailiff of the Fourth Division Court, County of Prince Edward	.....	14 February, 1876	1000 00	
		Henry Tice, Ameliasburgh	.....	500 00	
		John Sprague do	.....	500 00	
John Cooke Meredith..	Clerk of the First Division Court, County of Middlesex	.....	1 June, 1878	4000 00	
		John Jeffrey, London.....	.....	2000 00	
		John Pegler, Tp. London	.....	2000 00	

Henry Imlach	Clerk of the Ninth Division Court, County of Middlesex	.....	27 June, 1878 ...	1000 00
		Duncan G. McKenzie, Tp. London	.....	500 00
		James Egan, Tp. London	.....	500 00
Robert Russell Hay ...	Bailiff of the Sixth Division Court, County of Perth	.....	19 March, 1878 ..	4000 00
		George Climie, jun., Listowell.	.....	2000 00
		John C. Hay, do ..	.....	2000 00
John Beverley.....	Bailiff of the Ninth Division Court, County of Middlesex	.....	2 July, 1878	800 00
		William T. Cartwright, N. Dorchester	.....	400 00
		Richard E. Shaw, N. Dorchester	.....	400 00
George Graham.....	Bailiff of the Third Division Court, County of Ontario	.....	9 July, 1878	400 00
		Peter Edward Miller, Bertie ...	.....	200 00
		Robert Bowen, do ...	.....	200 00
Edward Henry Jackson	Bailiff of the Fifth Division Court, District of Algoma	.....	4 July, 1878	800 00
		Hiram Eckert, Gore Bay.....	.....	400 00
		Robert Thorburn, do	.....	400 00
Richard Chetwood Macdonald	Bailiff of the First Division Court, County of Welland	.....	30 September, 1878	1000 00
		John Scholfield, Humberstone.	.....	500 00
		Allan B. Cook, Welland	.....	500 00
James Ryan.....	Bailiff of the Seventh Division Court, United Counties of Prescott and Russell	.....	9 September, 1878	600 00
		Jas G. Higginson, Hawkesbury.	.....	300 00
		Elie Demars Rochon, Hawkesbury.....	.....	300 00
Francis Grant.....	Bailiff of the Eighth Division Court, County of Middlesex	.....	25 November, 1878	600 00
		Thomas Stiles, Tp. London ...	.....	300 00
		Bamlet E. Sifton, do ...	.....	300 00
John Bell McGuin	Registrar of the Surrogate Court, Counties of Lennox and Addington	.....	15 February, 1878	800 00
		Edmund Hooper, Napanee	.....	400 00
		Thomas Steel Henry, do	.....	400 00
Richard Herbert Coleman	Provincial Land Surveyor	.....	24 December, 1877	1000 00
		Rufus S. Hudson, Toronto	.....	1000 00
		Charles R. Willson, Brockville.	.....	1000 00
Charles Æneas Shaw ..	Provincial Land Surveyor	.....	8 October, 1877 ..	1000 00
		Robert L. Denison, Toronto...	.....	1000 00
		George T. Denison, do ...	.....	1000 00

DETAILED STATEMENT of all Bonds and Securities registered in the Provincial Registrar's Office since last Return.—*Concluded.*

Submitted to the Legislative Assembly, made in accordance with 32 Vict., cap. 29, sec. 15.

NAME OF PRINCIPAL.	OFFICE OF APPOINTMENT.	NAMES AND RESIDENCES OF SURETIES IN BOND OR COVENANT.	DATE OF BOND OR COVENANT.	PENALTY IN BOND OR COVENANT.	REMARKS.
Ernest G. Barrow	Provincial Land Surveyor	.....	5 October, 1877 ..	1000 00	
		Thomas Beasley, Hamilton....	.....	1000 00	
		Peter Balfour, do	.....	1000 00	
Villiers Sankey	Provincial Land Surveyor	.....	2 August, 1878 ..	1000 00	
		John G. Murray, Toronto	.....	1000 00	
		William Armstrong, do	.....	1000 00	
Matthew Joseph Butler.	Provincial Land Surveyor	.....	4 March, 1878 ...	1000 00	
		Tobias Butler, Millpoint	.....	1000 00	
		Thomas Gallagher, Belleville ..	.....	1000 00	
William E. Tench.....	Provincial Land Surveyor	.....	6 February, 1878.	1000 00	
		Edward Tench, Clifton.....	.....	1000 00	
		William E. Tench, Stamford ..	....	1000 00	
John J. Dalton.....	Provincial Land Surveyor	.....	21 January, 1878.	1000 00	
		William H. Dalton, Tp. York..	.....	1000 00	
		Robert G. Dalton, Toronto....	.....	1000 00	
John Davis.....	Provincial Land Surveyor	.....	4 May, 1878	1000 00	
		Joseph Davis, Caledon.....	.....	1000 00	
		James Davis, Erin	.....	1000 00	
William Robert Burke .	Provincial Land Surveyor	....	7 October, 1878 ..	1000 00	
		Albert L. Green, Belleville	.....	1000 00	
		Isaac J. Lockwood, do	.....	1000 00	
James A. Patterson....	Provincial Land Surveyor	.....	8 April, 1878	1000 00	
		John A. Paterson, Toronto	.....	1000 00	
		James W. Petheran, Galt	.....	1000 00	

REPORT

OF

THE HON. THE PROVINCIAL SECRETARY

ON THE WORKING OF THE

Tavern and Shop Licenses Acts,

FOR THE YEAR

1878.

Printed by Order of the Legislative Assembly.

Toronto:
PRINTED BY HUNTER, ROSE & CO., 25 WELLINGTON ST. WEST.
1879.

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LICENSE REPORT.

PROVINCIAL SECRETARY'S OFFICE,
LICENSE BRANCH,
TORONTO, February, 1879.

To His Honour DONALD ALEXANDER MACDONALD, *Lieutenant-Governor of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith the Third Annual Report upon the subject of Liquor Licenses, pursuant to the Statutes in that behalf.

This Report embodies the comparative results for the full license years of 1876-7 and 1877-8, respectively, and for the first eight months—ending on 31st December last—of the current license year.

Schedule A is a classified statement of the licenses issued and extended in every district of the Province during the respective periods above mentioned ; it contains in compact form the particulars of these licenses given in full detail in the tables of Schedule C. It also shows the amount of license duties received by the Province from the various Districts, under the provisions of the law which assign to it the proceeds of vessel licenses and one-third proportion of the net balance of license duties remaining after deducting the expenses and the statutory fees which go in full to the municipalities.

Schedule B, being a comparative statement of the number of licenses issued from year to year in the several counties, has been continued from the Report of last year by adding to the number of licenses issued in 1877 the number issued between the thirty-first day of December, 1877, and the first day of May, 1878, and also by including the number of licenses issued between the first day of May and the 31st day of December, in the license year of 1878-9. By reference to the recapitulation it will be seen that there has been a gradual reduction in the number of licenses issued since the appointment of the Boards of License Commissioners and Inspectors. This reduction has been somewhat affected by the introduction and repeal of the Dunkin Act in the various counties during the past two years, but it may now be fairly assumed, considering each municipality separately, that the number of licenses issued therein during the license years of 1877-8 and 1878-9 will be about the number issued in the future, unless from some extraordinary cause—such as a large increase of the population—it is found necessary also to increase the tavern accommodation, as it is presumed that the amount of tavern accommodation required has been fully considered by the Boards of Commissioners, and that they have

issued licenses accordingly. Whatever changes are made in the future will, no doubt, be in the nature of weeding out those who keep improper or disorderly houses, or who harbour improper or drunken persons on the premises, and transferring their licenses to a better class of men.

Schedule C is a compilation shewing the number of licenses issued in each municipality in the Province during the license years of 1876–7, 1877–8, and to the 31st day of December of 1878–9. It also contains the gross sums paid to the credit of the License Fund Accounts, and the proportion distributed to each municipality. In comparing the columns shewing the revenues of the municipalities during the years 1876–7 and 1877–8, there will sometimes appear to have been received in a municipality in one year a much larger sum for a certain number of licenses issued than in another year in which a greater number were issued. This is accounted for by the relative amounts of excess of statutory fees imposed each year by by-laws of the municipalities, the Statute giving them the power to add, for their sole use and benefit, a sum in excess of the fees fixed by the License Act, and these excesses vary according to the financial requirements of the municipalities. In cases where a sum in excess has not been imposed, the amounts received in 1877–8, as a rule, were greater than those received in 1876–7 for the same number of licenses issued, the reason being that the expenses of enforcing the Act were very considerably reduced after the first year—the first cost of printing large numbers of circulars, the preparation and printing of minute, cash, application and order books, &c., for the use of the Board and Inspectors, involving an outlay during the first year that will not require to be repeated for many years. There were, also, a large number of persons prosecuted for selling illicitly, who were subsequently compelled to quit the business, being for the most part composed of those who, formerly having licenses, were denied them under the statutory limitation of the number to be issued according to population; so that the number of prosecutions were probably in excess of what they would be in any subsequent year.

Under the Act 39 Vic. cap. 26, all powers and duties conferred and imposed upon the Commissioners of Police and Municipal Councils respectively in connection with the issuing of licenses were transferred to the Boards of License Commissioners. Since the passing of the Act it has been alleged by some that the change has not been in the interests of the municipalities financially. It cannot be denied that the interests of the general public demanded a reduction in the number of premises licensed, and had the Act been changed in this respect only, leaving still the control over the issue of licenses, and the enforcement of the Act in the hands of the municipalities as formerly, their revenues would undoubtedly have been lessened. A statement has been prepared, Schedule D, showing what the actual results as affecting the revenues of the municipalities have been. I have taken the number of licenses issued in the license year of 1876-7, the first year after the change, and after deducting all expenses, I find that there was paid to the several municipalities the sum of $139,568.93. This sum does not include the excess of the statutory duties which had been imposed by municipal by-law, as all such sums in excess, amounting in the aggregate to a sum of over $200,000, were paid to the municipalities in addition. Assuming the same number of licenses to have been issued under the former Act, and without deducting anything for expenses and losses, the total amount of statu-

tory fees that would have been paid to the municipalities, I ascertained to be $104,740. Had the change been simply with regard to limitation of the number of licenses to be issued, a change which was urgently demanded, the municipalities would have received less by $34,828.93, than they actually received under the present Act, and if to this sum there be added the probable expenses and losses incurred by the municipalities in connection with enforcing the Act, it may fairly be assumed that the change made has been favourable to the municipalities to the extent of $50,000 annually at least.

Sections 35 and 60 of the License Act direct that all fines and penalties imposed in cases in which the Inspector, or any officer appointed by the Lieutenant-Governor, is the prosecutor, shall be paid to the convicting Justice, and by him to the Inspector to be deposited to the credit of the License Fund Account of the District. Schedule E is a comparative statement showing the amount of the fines collected during the license years of 1876-7 and 1877-8, the total being $27,910.49 and $24,142.54, respectively. These large sums will convey some idea of the zeal and energy displayed by the Inspectors in the enforcement of the provisions of the Act. To have collected such amounts necessarily involved the successful prosecution of a very large number of cases, the great majority of which were for selling without license. In addition to these the Inspectors have also prosecuted many cases unsuccessfully ; so that independently of any other duty performed by the Inspectors, that of protecting the licensed against the unlicensed dealers has been a very important one. My attention having been called by Mr. Totten, the chief officer of the License Branch, to the large number of cases prosecuted and the amounts involved in connection therewith, and it appearing that my Department had no direct supervision over the collection of the fines and no accurate or complete check upon their appropriation by the Inspectors, I caused an inspection of a large number of the License Districts to be made with the view of ascertaining the number of cases prosecuted successfully and unsuccessfully, the fines imposed and collected, or outstanding, and the manner in which the Inspectors discharged their duties and in which the record and minutes of proceedings were kept, in order to enable me to establish a system whereby a complete and accurate statement of all informations laid or proceedings taken by the Inspectors in the discharge of their duties shall be kept in the future, and a quarterly return sheet, properly certified by the Commissioners, be made to this Department. This Schedule also exhibits, in juxtaposition with the fines, the amounts paid for the expenses of Commissioners and the salaries of Inspectors of the Districts, during the years 1876-7 and 1877-8 ; and shows that these outlays had been largely met by the money penalties realized through the energy of the officials.

In the remarks made in my Report of last year regarding the Temperance Act of 1864, I informed your Honour that by-laws in connection therewith had been voted on and carried in the Counties of Bruce, Brant, Frontenac, Grey, Kent, Lanark, Lennox and Addington, Northumberland and Durham, Ontario, Oxford, Prince Edward, Peterborough, and York, as well as in several townships, villages, and towns. At that time the friends of the Dunkin Act claimed that the introduction of the Act in so many counties was proof of a public sentiment favourable to a prohibitory measure for the whole Dominion, and the passage by the Parliament of Canada, at its last Session, of The Canada Temperance Act, commonly known as the Scott Act, was a result of this

agitation. On reference to Schedule F, it will be observed that since the date of my last Report the by-law has been quashed by the Courts or repealed by vote of the people in the Counties of Brant, Grey, Frontenac, Kent, Lennox and Addington, Oxford and Peterborough, so that there has been no opportunity to prepare and submit statistics shewing by comparison what has been the effect of its introduction and working on an extended scale, as in no county, excepting Prince Edward, has it been in force for more than one year at any one time.* From the difficulties attending the prosecution of cases, and obtaining evidence in connection therewith, it cannot be said that public sentiment is strongly in favour of its rigid enforcement. As a rule, the Boards of Commissioners and Inspectors have had to contend almost single-handed against a united opposition sufficiently strong to make its power and influence felt in every movement made by the Boards in connection with the Act. As an evidence of this power or influence, although, perhaps, not directly exercised, it may be stated that of all the counties in which the Act has been in force, Brant, Lennox and Addington, and Lanark are the only ones which have contributed the two-thirds share of the expenses for which the counties are liable by statute, and which are payable out of the county funds. The particulars of these contributions are set out in Schedule G. The County Councils, in every other case, when called upon to contribute, declined or neglected to do so. The Council of Prince Edward has, from the first, refused to pay its proportion, and, as a consequence, the Commissioners have filed a bill in chancery against the county to enforce payment. The suit has been tried, but stands for judgment, as important constitutional questions were raised by the proceedings. The enforcement of the Act in a large majority of the municipalities, without the expenditure of considerable sums of money, would be impossible. No cases are so difficult to prove as those connected with the illicit sale of liquors, and many of those coming before the Courts, not being proved to the satisfaction of the Magistrates, are dismissed with costs; and there being no funds, as a rule, to meet such costs at the time they are incurred, the officials object to proceed further.

Schedule H shews the sums paid out of the Consolidated Revenue to the credit of the several License Fund Accounts in the several counties where the Dunkin Act is and has been in force, being the one-third portion of the expenses voted by the Legislature towards the enforcement of the Act. These amounts, with the fines collected, are the only sums which the Board of Commissioners and Inspectors have had under their control to meet the expenses, and in no case have they been sufficient for the purpose. I am happy to say that these remarks do not apply to the License District of West York, which requires to be specially mentioned as having been enabled, from the fines collected, not only to meet all demands upon the funds, but at the end of the license year, the Board will have a handsome balance to distribute between the municipalities and the Government.

Under the Act 37 Vic. cap. 32, section 26, brewers and distillers were for the first time

* Since the above was written, the Act has been repealed in the Counties of Bruce, and Northumberland and Durham. It is now in force in the Counties of Lanark, Ontario, Prince Edward and York, and of these, by-laws to repeal the Act have been submitted in Lanark, Prince Edward, and Ontario, and the voting thereon will take place shortly.

required to take out licenses to sell by wholesale the liquor manufactured by them, when sold for consumption within the Province. Many of them contended that, having been duly licensed to manufacture by the Dominion Government, they had also the right to sell under such license, and consequently refused to recognize the authority of the Ontario Legislature to impose additional duty upon them. During the years of 1874 and 1875, a few of them applied for and received licenses, and paid the duties to the municipalities and Province respectively; but no active measures were taken to induce the others also to take out licenses, and it was not until the change in the law, and Boards of Commissioners and Inspectors were appointed, that decisive action was taken by successfully prosecuting a few cases and having fines imposed. This induced a large number of them to apply for and receive licenses, the duties being paid under protest. Subsequently the Brewers' Association took up the question, and a friendly suit of the Queen *v.* Taylor was agreed upon and submitted to the Courts for decision, but the case before the Supreme Court having been decided upon collateral points the proceedings proved abortive, and another case of the Queen *v.* Severn was taken up, and after arguments before the Supreme Court at Ottawa, by the Hon. Mr. Crooks, on behalf of the Government, and Mr. Bethune, Q.C., for the Brewers' Association, it was decided that the legislation imposing the duties by the Ontario Legislature was *ultra vires.* In deference to this judgment it was decided to refund to the brewers and distillers all moneys theretofore paid by them for licenses issued by the Ontario Government, with interest from the date of payment. An Act was therefore passed last Session, 41 Vic. cap. 14, whereby a sum not exceeding seven thousand dollars was set apart out of the Consolidated Revenue of the Province for the purpose. Of this sum but $5,438.77 were required, and there was subsequently refunded to the Consolidated Revenue the sum of $1,171.39, so that only $4,268.38 were actually disbursed. A complete report of these payments is contained in Schedule I. To properly understand the Schedule, it must be borne in mind that, in the years 1874 and 1875, the Government duties were paid to certain parties appointed by the Government to issue the licenses and receive the fees, and the municipal share thereof was paid to the municipal treasurer. In 1876 and subsequently, the licenses were issued by the Boards of License Commissioners and Inspectors, and the duties therefor were paid to the credit of the License Fund Account for the license districts in which the brewery or distillery was situate. As all the duties paid by the brewers and distillers to the credit of the License Fund Accounts were paid under protest, they were not distributed with the other duties received for licenses, between the municipalities and the Province respectively, but remained at the credit of the fund pending the decision of the case before the Courts. Column 3, in the Schedule, shows the sums deposited to the credit of the several License Fund Accounts; Column 2, the name of the brewer or distiller so depositing; and Column 1, the license district in which the brewery or distillery was situate. Column 4 shows the duties paid by the same parties in the years 1874 and 1875 to the issuer of licenses as Government duties; and Column 5, the sums paid to the treasurers of the municipalities as municipal duties; 6, the fines paid; 7, the dates of such payments; 8, the interest thereon; 9, the sums refunded from the License Fund Accounts; 10, the amounts paid out of the Consolidated Revenue; and 11, the sums that were deducted from the share of the license

duties payable to the municipalities which had received from the brewers and distillers, in 1874 and 1875, the license duties then payable.

Schedule K gives a comparative statement of the number of commitments for drunkenness to the County Gaols during the years 1874 to 1878 inclusive.

Of the total commitments as between the years 1877 and 1878 there has been a reduction, in favour of 1878, of 133.

In one half of the counties there has been an increase of the number committed in 1878 over 1877, and in the other half a decrease. In the County of York, which includes the City of Toronto, there has been a decrease in 1878 of 514. In Welland the increase has been 220. This may be accounted for from the fact of large public works being in the course of construction in that county. In Middlesex the increase has been 105; in Lambton, 38; these are the only increases or decreases worthy of note. Of the counties in which the Dunkin Act has been in force during the year 1878 there has been an increase in the number of commitments in Bruce, Grey and Lanark, and a decrease in Northumberland and Durham, Ontario, Prince Edward, and York. As York also includes the City of Toronto, in which the License Act was in force, it cannot be stated whether or not, the fact of the Dunkin Act having been in force in the county had a perceptible influence upon the number of commitments during the year.

Respectfully submitted.

ARTHUR S. HARDY,
Provincial Secretary.

SCHEDULES.

SCHEDULE

COMPARATIVE STATEMENT, by License Districts, shewing the number of Tavern, amount of Revenue received therefrom by the Province, in the license years

LICENSE DISTRICT.	No. of Tavern Licenses issued.			No. of Shop Licenses issued.			No. of Tavern Licenses extended			No. of Shop Licenses extended			No. of Wholesale Licenses issued.		
	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.
Algoma	7	8	8	2	2	2	..	..	..	..	..	..	..	..	..
Addington	32	10	43	1	..	2	..	..	..	..	..	..	..	..	..
Brant, North	20	..	18	3	..	2	..	..	..	..	..	..	..	1	..
" South	36	..	35	11	..	8	..	..	..	..	..	..	4	5	5
Brockville and South Leeds	43	59	56	15	14	11	..	..	..	..	1	..	..	..	..
Bruce, North	31	26	..	2	2	..	..	..	..	..	..	..	..	..	..
" South	57	55	..	11	9	..	..	1	..	..	..	..	2	..	..
Cardwell	28	38	40	4	6	4	..	2	..	..	..	..	..	..	..
Cornwall	23	20	24	6	6	5	..	..	..	..	..	..	..	..	..
Carleton	30	38	22	1	3	2	..	..	..	..	..	..	2	..	..
Dufferin	29	26	26	5	4	3	..	..	..	..	..	..	..	..	..
Dundas	21	28	26	5	4	5	..	1	1	..	..	..	..	..	..
Durham, East	33	34	14	9	9	6	..	..	..	..	..	..	2	..	..
" West	19	18	..	4	2	..	..	3	..	..	..	..	..	..	..
Elgin	66	66	69	16	10	11	..	..	1	..	..	..	2	..	..
Essex, North	44	48	46	10	14	14	..	..	1	..	..	2	7	1	1
" South	18	21	20	4	4	4	..	..	..	..	..	1	..	..	..
Frontenac	14	7	11	..	..	..	..	..	..	..	..	..	1	..	..
Glengarry	27	28	28	9	8	7	..	..	..	..	..	..	..	..	..
Grey, North	24	..	..	4	..	..	..	..	..	..	..	..	4	5	4
" South	23	..	..	5	..	..	..	..	..	..	..	..	1	1	..
" East	25	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Halton	39	38	36	2	1	..	..	..	3	..	..	1	1	..	..
Haldimand	36	42	42	3	3	3	..	..	..	..	..	..	..	..	..
Hamilton	68	68	68	61	55	61	..	5	4	..	3	1	11	7	7
Hastings, North	20	19	22	4	5	5	..	..	..	..	..	..	..	..	..
" East	25	28	31	1	2	1	..	..	..	..	..	..	..	..	..
" West	31	34	35	6	8	8	..	..	1	..	..	..	3	3	3
Huron, East	30	36	35	2	1	1	..	2	1	..	..	..	..	..	..
" South	41	43	44	7	7	9	..	..	3	..	..	..	2	..	..
" West	42	45	44	7	8	9	..	..	1	..	..	..	1	..	..
Kent, East	41	41	37	7	9	7	..	..	..	..	..	..	1	..	..
" West	25	26	24	6	6	5	..	..	..	..	..	..	3	..	..
Kingston	53	61	60	23	21	20	..	..	..	..	..	..	6	3	3
Lambton, East	24	26	25	9	8	7	..	..	..	..	1	..	..	..	..
" West	41	39	43	19	17	19	..	1	..	..	..	..	1	..	..
Lanark, North	15	15	..	3	3	..	..	..	..	..	..	..	..	..	..
" South	17	17	7	6	6	4	..	..	..	..	..	..	2	..	..

A.

Shop, Wholesale, Six Months' and Vessel Licenses issued or extended, and the 1876-7 and 1877-8, and the period from 1st May to 31st December, 1878-9.

No. of Six Months' Licenses issued.			No. of Vessel Licenses issued.			Total.			Amount of License duties received by the Province, including those for Vessel Licenses.			Remark
1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	
									$ cts.	$ cts.	$ cts.	
...	...	...	...	...	...	9	10	10	192 73	242 02	228 02	
...	...	...	...	...	...	33	10	45	515 55	136 82	705 45	Dunkin Act in force in parts in 1877-8.
...	...	...	...	...	...	23	1	20	392 62	.....	244 00	Do 1877-8.
...	...	...	...	...	...	51	5	48	1155 07	.....	1097 44	Do do
...	...	...	...	...	...	58	74	67	1128 90	1367 90	1083 35	
...	...	...	...	...	...	33	28	....	508 80	356 69	.....	Dunkin Act in force during part of 1878-9.
...	...	...	...	...	...	70	66	....	1340 15	1,137 09	.....	Do do
...	...	...	...	...	...	32	46	44	385 82	692 47	613 32	
...	...	...	...	...	...	29	26	29	596 28	491 21	492 66	
...	...	...	...	...	...	33	41	24	400 51	602 85	263 34	
...	...	...	...	...	...	34	30	29	572 67	517 90	480 00	
...	...	...	...	...	...	26	33	32	393 22	523 75	441 66	
...	...	...	1	1	1	45	44	21	886 01	924 42	500 00	Dunkin Act in force in 1878-9, except in Port Hope.
...	...	...	...	...	...	23	23	....	307 42	247 09	.....	Dunkin Act in force in 1878-9.
...	1	1	...	...	...	84	77	82	1605 41	1507 40	1473 28	
...	...	...	1	1	1	62	64	64	1236 65	1393 70	1228 30	
...	1	1	...	...	...	22	26	25	328 59	442 15	378 34	
...	...	...	...	...	...	15	7	11	105 96	45 03	36 64	Dunkin Act in force in portions of the District at certain periods.
...	...	...	...	...	...	36	36	35	535 04	585 75	523 33	
...	...	...	2	2	1	34	7	5	530 27	.....	.....	Dunkin Act in force in 1877-8 and part of 1878-9.
...	...	...	...	...	...	29	1	....	428 73	.....	.....	Do do
...	...	...	...	...	...	26	...	....	343 02	.....	.....	Do do
...	...	...	...	...	...	42	39	40	652 61	673 59	549 98	
...	...	...	...	...	...	39	45	45	562 49	719 01	723 99	
..	1	1	1	2	2	141	141	144	4663 36	4120 07	4446 74	
...	...	...	...	...	...	24	24	27	311 75	327 96	325 00	
...	...	...	...	...	...	26	30	32	345 83	478 69	436 66	
...	...	...	1	1	...	41	46	47	991 27	1122 68	1181 65	
...	...	...	...	...	...	32	39	37	488 50	579 45	488 30	
...	...	...	...	...	...	50	50	56	886 12	915 62	918 54	
...	...	...	...	...	...	50	53	54	897 90	1069 90	947 63	
...	...	...	...	...	...	49	50	44	811 29	907 77	663 32	
...	...	...	1	1	...	35	33	29	538 68	704 14	466 66	
...	...	...	5	8	8	87	93	91	2941 35	3581 00	3200 00	
...	...	1	...	...	...	33	35	33	586 25	536 88	471 63	
...	1	...	...	...	...	61	58	62	1211 74	1175 05	1209 98	
...	...	...	...	...	...	18	18	....	201 88	190 40	.....	Dunkin Act in force in 1878-9.
...	...	...	...	...	...	25	23	11	313 04	263 74	143 35	do do except in Town of Perth.

SCHEDULE

COMPARATIVE STATEMENT shewing the number of Tavern,

LICENSE DISTRICT.	No. of Tavern Licenses issued.			No. of Shop Licenses issued.			No. of Tavern Licenses extended.			No. of Shop Licenses extended.			No. of Wholesale Licenses issued.		
	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.
Leeds & Grenville, North, & South Grenville	36	41	39	8	10	8	....	....	....	....	....	....	3	....	.....
Lennox	11	....	13	5	...	4	....	....	....	.....	....	....	1	1	....
Lincoln	65	66	66	31	25	20	....	1	....	....	....	.....	....	....	....
London	57	58	57	34	35	37	....	3	2	.....	1	....	5	1	1
Middlesex, East	58	64	66	11	10	8	....	....	....	....	....	1	1	....	....
" North	34	39	37	6	6	6	....	....	....	....	....	....	....	....	....
" West	30	36	36	9	7	5	....	....	....	....	....	....	2	....	.....
Monck	19	14	12	2	1	1	....	....	....	....	....	....	....	....	....
Muskoka and Parry Sound	17	22	27	...	...	...	....	....	....	....	....	....	....	....	....
Nipissing	.....	.....	2	...	1	1	....	....	....	....	....	....	....	....	....
Norfolk	51	50	53	4	5	5	....	1	1	....	....	....	2	1	....
Northumberland, East	24	24	....	9	8	...	....	....	....	....	....	....	....	....	....
" West	26	27	12	5	5	5	....	3	....	....	....	....	2	2	.....
Ontario, North	39	38	....	6	5	...	....	....	....	....	....	....	....	....	....
" South	21	20	....	4	4	....	....	....	....	....	....	....	....	....	....
Ottawa	75	75	71	77	80	71	....	....	....	....	....	....	7	2	....
Oxford, South	36	37	37	4	4	4	....	....	....	....	....	....	2	....	....
" North	37	33	34	5	6	6	....	....	....	....	....	....	2	1	....
Peel	35	35	37	8	7	6	....	....	....	....	....	....	....	....	....
Perth, North	60	60	60	6	10	10	....	1	....	....	....	....	3	....	....
" South	41	44	43	7	6	7	....	....	....	....	....	....	....	....	....
Peterborough, West	23	24	....	8	8	....	....	....	....	....	....	....	....	....	....
" East	17	18	11	3	3	3	....	....	....	....	....	....	2	....	....
Prescott	35	29	28	...	5	5	....	....	....	....	....	....	....	....	....
Prince Edward	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Renfrew, South	30	20	14	11	9	6	....	1	....	....	....	....	....	....	....
" North	23	22	16	9	9	9	....	....	....	....	....	....	....	....	....
Russell	31	34	35	...	...	...	....	....	....	....	....	....	....	....	.....
Simcoe, East	34	34	34	3	5	5	....	2	....	....	....	....	....	1	1
" South	34	31	30	5	5	4	....	1	....	....	....	1	....	....	....
" West	45	46	48	11	9	7	....	....	....	....	2	2	2	....	....
Stormont	11	11	14	...	...	...	....	....	....	....	....	....	....	....	....
Toronto	215	182	180	100	100	92	....	15	3	....	4	....	39	26	20
Thunder Bay	11	11	11	4	3	3	....	....	....	....	....	....	....	....	....
Victoria, North, and Haliburton	....	30	25	...	2	2	....	....	....	....	....	....	....	....	....
" South	....	26	25	...	3	3	....	....	....	....	1	....	....	....	....
" and Haliburton	55	.....	....	5	...	...	....	....	....	....	....	....	1	....	....

A.—*Continued.*

Shop, Wholesale, Six Months' and Vessel Licenses, &c.

No. of Six Months' Licenses issued.			No. of Vessel Licenses issued.			Total.			Amount of License duties received by the Province, including those for Vessel Licenses.			Remarks.
1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	
									$ cts.	$ cts.	$ cts.	
....	....	..	....	....	..	47	51	47	689 31	924 73	733 33	
....	....	..	....	....	..	17	1	17	210 94	.....	190 00	Dunkin Act in force in the whole District 1877-8, and in portions thereof in 1876-7 and 1878-9.
.....	2	2	....	....	..	96	94	89	2480 39	2377 22	2038 32	
....	....	..	....	....	..	96	98	97	2765 40	2999 76	2985 23	
....	....	..	....	....	..	70	74	75	1315 22	1408 02	1218 37	
....	....	..	....	....	..	40	45	43	595 98	770 08	580 00	
....	....	..	....	....	..	41	43	41	762 16	790 25	733 27	
....	....	..	....	....	..	21	15	13	263 86	172 15	60 00	
....	1	..	....	....	..	17	23	27	278 41	463 56	635 33	
....	....	..	....	....	..	....	1	3	.....	.....	.....	
....	....	..	....	....	..	57	59	59	974 54	1040 90	978 32	
.....	1	..	....	....	..	33	33	....	455 00	430 43	.....	Dunkin Act in force in 1878-9.
....	1	..	....	....	1	33	37	18	600 18	543 75	410 00	Do do except in Town of Cobourg.
....	....	..	....	....	..	45	43	....	658 13	590 43	.....	Dunkin Act in force in 1878-9.
....	....	..	....	....	..	25	24	....	479 98	350 43	.....	Do do
....	1	1	1	1	..	160	159	143	4908 69	4759 73	4100 00	
....	....	..	....	....	..	42	41	41	665 95	852 59	713 33	
....	....	..	....	....	..	44	40	40	769 11	771 17	679 99	
....	....	..	....	....	..	43	42	43	775 16	727 60	709 99	
....	....	..	....	....	..	69	71	70	1270 80	1527 60	1333 32	
....	....	..	....	....	..	48	50	50	971 69	1030 22	930 00	
....	....	..	....	1	..	31	33	....	605 04	738 92	.....	Dunkin Act in force during part of 1878-9.
....	....	..	1	....	1	23	21	15	314 24	258 03	246 66	
....	....	..	....	....	..	35	34	33	523 72	516 85	493 33	
....	....	..	....	....	..	1	....	....	.....	.....	.....	Dunkin Act in force in 1876-7, 1877-8, and 1878-9.
....	....	..	....	....	..	41	30	20	621 09	467 34	230 00	
....	....	..	1	....	..	33	31	25	659 67	608 79	453 32	
....	....	..	....	....	..	31	34	35	436 05	587 05	452 67	
....	....	..	....	....	..	37	42	40	601 44	687 33	670 00	
....	....	..	....	....	..	39	37	35	490 37	579 98	498 33	
....	....	..	2	2	1	60	59	58	1172 34	1326 98	1166 66	
....	....	..	....	....	..	11	11	14	117 66	116 96	136 99	
....	....	..	9	6	10	363	335	305	11278 10	9854 20	8758 33	
....	....	..	....	....	..	15	14	14	404 02	139 10	163 78	
....	....	..	....	....	..	....	32	27	.....	428 25	379 46	The figures for year 1876-7 included in Victoria and Haliburton.
....	....	..	....	....	..	....	30	28	.....	442 79	273 84	
....	....	..	....	....	..	61	....	....	955 32	.....	.....	

SCHEDULE

COMPARATIVE STATEMENT shewing the number of Tavern,

LICENSE DISTRICT.	No. of Tavern Licenses issued.			No. of Shop Licenses issued.			No. of Tavern Licenses extended.			No. of Shop Licenses extended.			No. of Wholesale Licenses issued.		
	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.
Waterloo, North	44	43	43	12	9	10	....	1	1	....	....	..	5	..	....
" South	42	41	43	7	8	7	....	1	..	....	....	..	5	..	....
Welland	68	77	85	19	19	21	....	4	1	....	1	..	....	..	....
Wellington, West	46	44	46	9	9	11	....	....	..	....	....	..	....	..	....
" Centre	35	35	34	8	7	6	....	2	..	....	....	..	3	3	....
" South	40	35	36	9	9	9	....	....	..	....	....	..	....	1	....
Wentworth, South	24	21	23	2	2	2	....	....	..	....	....	..	....	..	....
" North	37	35	24	9	8	4	....	1	1	....	....	..	2	..	....
York, East	29	28	....	3	3	....	....	1	..	....	....	..	....	..	....
" West	33	32	....	5	4	....	....	2	..	....	1	..	....	..	....
" North	46	37	....	8	8	....	....	7	..	....	....	..	1	..	....
Total	2978	2838	2545	785	733	659	....	60	27	....	15	9	147 *	67	45

* Brewers' Licenses issued in 1876-7 are here included.

A.—*Concluded.*

Shop, Wholesale, Six Months' and Vessel Licenses, &c.

No. of Six Months' Licenses issued.			No. of Vessel Licenses issued.			Total.			Amount of License duties received by the Province, including those for Vessel Licenses.			Remarks.
1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	
									$ cts.	$ cts.	$ cts.	
....	..	..	....	....		61	53	54	1161 30	1128 76	976 68	
....	..	..	....	....		54	50	50	827 83	893 53	856 67	
....	4	4	....	....		87	105	111	1437 29	2048 67	2149 51	
....	..	..	....	....		55	54	57	911 88	1009 42	929 90	
....	..	..	....	....		46	47	40	750 47	698 66	533 33	
....	..	..	....	....		49	45	45	1034 25	916 51	880 00	
....	..	..	....	....		26	23	25	329 40	337 72	280 00	
....	1	..	....	....		48	45	29	841 36	807 39	378 32	
....	..	..	....	....		32	32	....	507 85	455 43	.....	Dunkin Act in force 1878-9.
....	..	..	....	....		38	39	....	516 35	651 64	.....	Do do
....	..	..	....	....		55	52	....	908 34	705 42	.....	Do do
....	15	11	26	26	26	3936	3754	3322	79,589 81	77,516 55	65,899 20	

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2, '3, '4, '5, '6, '7, and '8.

COUNTIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Algoma	1870	8	8	.....	1	
	1871	9	6	.....	2	
	1872	15	8	.....	3	
	1873	11	6	.....	1	
	1874	12	6	.....	3	
	1875	11	3	.....	3	
	1876	7	2			
	1877	8	2			
May 1 to Dec. 31	1878	8	2			
Brant	1870	107	28			
	1871	103	27			
	1872	107	29			
	1873	108	28			
	1874	95	29			
	1875	73	22	2		
	1876	56	14	4		
	1877	.....	.....	6	.....	Dunkin Act in force.
May 1 to Dec. 31	1878	53	10	5		
Bruce	1870	92	13			
	1871	93	18			
	1872	106	25			
	1873	110	20			
	1874	180	25			
	1875	119	22			
	1876	88	13	3		
	1877	81	11	2		
May 1 to Dec. 31	1878	.....	.....	.....	.....	Dunkin Act in force.
Carleton	1870	65				
	1871	63				
	1872	69	7			
	1873	63				
	1874	89	5			
	1875	79	8			
	1876	30	1	2		
	1877	38	3			
May 1 to Dec. 31	1878	22	2			
Elgin	1870	81	23			
	1871	85	24			
	1872	88	25			
	1873	112	26			
	1874	113	25			
	1875	110	24			
	1876	66	16	2		
	1877	66	10	2		
May 1 to Dec. 31	1878	69	11			

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2, '3 '4, '5, '6, '7, and '8.—*Continued.*

COUNTIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Essex	1870	105	16			
	1871	104	15			
	1872	112	19			
	1873	122	22			
	1874	120	28	6		
	1875	101	25	6		
	1876	62	14	5	1	
	1877	69	18	1	1	
May 1 to Dec. 31	1878	66	18	1	1	
Frontenac	1870	66				
	1871	55				
	1872	65				
	1873	72	1			
	1874	71	2			
	1875	57	29			
	1876	14	.....	1		
	1877	7	.....		.....	Dunkin Act in force in portion of County.
May 1 to Dec. 31	1878	11				
Grey	1870	113	12			
	1871	112	13			
	1872	111	11			
	1873	118	13	.....	1	
	1874	115	20	.....	3	
	1875	114	16	.....	2	
	1876	77	11	5	2	
	1877	.....	.....	6	2	Dunkin Act in force.
May 1 to Dec. 31	1878	.....	.....	4	1	do
Haldimand	1870	79	13			
	1871	85	15			
	1872	89	15			
	1873	95	16			
	1874	96	16			
	1875	83	13			
	1876	45	5			
	1877	49	4			
May 1 to Dec. 31	1878	47	4			
Halton	1870	58	13			
	1871	60	10			
	1872	60	10			
	1873	60	8			
	1874	61	4			
	1875	58	5			
	1876	39	2	1		
	1877	38	1			
May 1 to Dec. 31	1878	36				

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2, '3, '4, '5, '6, '7, and '8.—*Continued.*

COUNTIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Hastings	1870	101	28			
	1871	103	23			
	1872	115	24			
	1873	118	24			
	1874	117	23	1		
	1875	100	21	2		
	1876	76	11	3	1	
	1877	81	15	3	1	
May 1 to Dec. 31	1878	88	14	3		
Huron	1870	144	40			
	1871	130	35			
	1872	133	38			
	1873	134	40			
	1874	150	38			
	1875	164	37	2		
	1876	113	16	3		
	1877	124	16			
May 1 to Dec. 31	1878	123	19			
Kent	1870	102	34			
	1871	112	42			
	1872	118	42			
	1873	129	37			
	1874	128	41	.....	1	
	1875	118	34	.....	1	
	1876	66	13	4	1	
	1877	67	15	.....	1	
May 1 to Dec. 31	1878	61	12			
Lambton	1870	73	28			
	1871	74	31			
	1872	82	33			
	1873	88	38			
	1874	89	44	1		
	1875	85	33			
	1876	65	28	1		
	1877	65	25			
May 1 to Dec. 31	1878	68	26			
Lanark	1870	55	18			
	1871	58	20			
	1872	61	15			
	1873	63	16			
	1874	62	20	2		
	1875	62	14	1		
	1876	32	9	2		
	1877	32	9			
May 1 to Dec. 31	1878	7	4	.....		Dunkin Act in force, except in Town of Perth.

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2, '3, '4, '5, '6, '7, and '8.—*Continued.*

COUNTIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Leeds and Grenville	1870	133	25	.....	1	
	1871	131	29	.....	1	
	1872	134	33			
	1873	141	29			
	1874	145	32	1		
	1875	136	23	1		
	1876	79	23	3		
	1877	100	24			
May 1 to Dec. 31	1878	95	19			
Lennox and Addington..	1870	40	7			
	1871	45	7			
	1872	51	7			
	1873	46	7	.....	1	
	1874	52	7			
	1875	46	8	.....	1	
	1876	43	6	1		
	1877	10	.....	1	.....	Dunkin Act in force in parts.
May 1 to Dec. 31	1878	56	6			
Lincoln	1870	92	31			
	1871	91	25			
	1872	96	24			
	1873	118	27			
	1874	94	23	.....		
	1875	103	37	.....		
	1876	70	31			
	1877	70	25			
May 1 to Dec. 31	1878	70	20			
Middlesex	1870	163	31			
	1871	178	30			
	1872	186	32			
	1873	186	40			
	1874	188	17	1		
	1875	174	33			
	1876	122	26	3		
	1877	139	26			
May 1 to Dec. 31	1878	139	18			
Muskoka & Parry Sound	1870	10	.....	.....	1	
	1871	18	1	.....	1	
	1872					
	1873	3				
	1874	9				
	1875	23				
	1876	19				
	1877	22				
May 1 to Dec. 31	1878	27				

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2, '3, '4, '5, '6, '7, and '8.—*Continued.*

COUNTIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Norfolk	1870	9	11			
	1871	72	13			
	1872	73	10			
	1873	64	7			
	1874	73	6			
	1875	74	6			
	1876	51	4	2		
	1877	50	5	1		
May 1 to Dec. 31	1878	53	5			
Northumberland and Durham	1870	133	30	.....	1	
	1871	134	28	.....	1	
	1872	137	36	.....	2	
	1873	132	37	.....	1	
	1874	135	35	2	1	
	1875	121	32	2	1	
	1876	102	27	4	1	
	1877	103	24	2	1	
May 1 to Dec. 31	1878	26	11		2	Dunkin Act in force, except in Towns of Port Hope and Cobourg.
Ontario	1870	95	21			
	1871	103	25			
	1872	93	27			
	1873	100	28			
	1874	86	35			
	1875	87	23			
	1876	60	10			
	1877	58	9			
May 1 to Dec. 31	1878	.....	.....	.....	.....	Dunkin Act in force.
Oxford	1870	107	36			
	1871	108	38			
	1872	106	28			
	1873	106	29			
	1874	104	29			
	1875	102	25			
	1876	73	9	4		
	1877	70	10	1		
May 1 to Dec. 31	1878	71	10			
Peel	1870	80	21			
	1871	89	26			
	1872	89	25			
	1873	89	17			
	1874	91	15			
	1875	86	15			
	1876	49	10			
	1877	57	9			
May 1 to Dec. 31	1878	57	7			

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2, '3, '4, '5, '6, '7, and '8.—*Continued.*

COUNTIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Perth	1870	128	24			
	1871	137	23			
	1872	141	26			
	1873	133	34			
	1874	145	33			
	1875	135	25			
	1876	101	13	3		
	1877	104	16			
May 1 to Dec. 31	1878	103	17			
Peterborough	1870	70	10			
	1871	82	12			
	1872	78	16	.....	1	
	1873	91	16			
	1874	98	16			
	1875	72	16			
	1876	40	11	2	1	
	1877	42	11		1	
May 1 to Dec. 31	1878	11	3	.....	1	Dunkin Act in force in West Riding.
Prescott and Russell	1870	38	5			
	1871	44	6			
	1872	45	7			
	1873	53	12			
	1874	63	10			
	1875	58	11	1		
	1876	66				
	1877	63	5			
May 1 to Dec. 31	1878	63	5			
Prince Edward	1870	10	2			
	1871	22	4	.....	2	
	1872	21	4			
	1873	23	4			
	1874	22	3	.....	3	
	1875	23	3	.....	1	
	1876	.....	.....	1	.....	Dunkin Act in force.
	1877	.....	.....	.....	.....	do
May 1 to Dec. 31	1878	.....	.....	.....	.....	do
Renfrew	1870	83	31			
	1871	98	32	.....	1	
	1872	96	33	.....	1	
	1873	101	38	.....	1	
	1874	100	35	.....	1	
	1875	102	30	1	1	
	1876	51	20	.....	1	
	1877	42	18			
May 1 to Dec. 31	1878	30	15			

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2' 3, '4, '5, '6, '7, and '8.—*Continued.*

COUNTIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Simcoe	1870	165	37	.....	4	
	1871	173	45			
	1872	207	52			
	1873	225	56			
	1874	223	42			
	1875	96	35	2	2	
	1876	135	22	2	2	
	1877	137	24	1	2	
May 1 to Dec. 31	1878	142	19	1	1	
Stormont, Dundas and Glengarry	1870	101	37			
	1871	99	36			
	1872	100	33			
	1873	106	32			
	1874	122	31			
	1875	80	28			
	1876	82	22			
	1877	87	18			
May 1 to Dec. 31	1878	92	17			
Victoria	1870	65	12	.....	3	
	1871	76	12			
	1872	73	10			
	1873	80	14	.....	4	
	1874	78	13	1		
	1875	70	9	.....	1	
	1876	55	5	1	.....	Including Haliburton.
	1877	56	5	1	.....	
May 1 to Dec. 31	1878	50	5	.....	.....	
Waterloo	1870	149	29			
	1871	147	30			
	1872	150	31			
	1873	143	33			
	1874	135	21	3		
	1875	136	20	13		
	1876	86	19	10		
	1877	84	17			
May 1 to Dec. 31	1878	86	17			
Wellington	1870	184	58			
	1871	186	57			
	1872	201	57			
	1873	201	56			
	1874	183	52			
	1875	182	41	3		
	1876	138	29	3		
	1877	130	28	4		
May 1 to Dec. 31	1878	132	29			

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2, '3, '4, '5, '6, '7, and '8.—*Continued.*

COUNTIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Welland	1870	124	20			
	1871	129	22			
	1872	135	22			
	1873	144	27			
	1874	145	28	3		
	1875	151	23			
	1876	73	19			
	1877	83	19			
May 1 to Dec. 31	1878	91	21			
Wentworth	1870	97	21			
	1871	100	22			
	1872	109	22			
	1873	109	25			
	1874	110	32	4		
	1875	107	19	2		
	1876	61	11	2		
	1877	56	10			
May 1 to Dec. 31	1878	47	6			
York	1870	163	19	.....	2	
	1871	164	44			
	1872	165	20			
	1873	174	22			
	1874	148	39			
	1875	164	35			
	1876	108	16	1		
	1877	97	15			
May 1 to Dec. 31	1878	.....	.....	.....	.....	Dunkin Act in force.
Thunder Bay	1870					
	1871					
	1872					
	1873	13	9			
	1874	18	8			
	1875	25	12			
	1876	11	4			
	1877	11	3			
May 1 to Dec. 31	1878	11	3			
Nipissing	1877	.....	1			
May 1 to Dec. 31	1878	2	1			
Haliburton	1877	.....	.....	.....	.....	See Victoria, *ante.*
May 1 to Dec. 31	1878	.....	.....	.....	.....	

SCHEDULE B.

COMPARATIVE STATEMENT, by Counties, showing the number of Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties in the Province of Ontario, for the years 1870, '1, '2,' 3, '4, '5, '6, '7, and '8.—*Continued.*

CITIES.	Year.	Number of Tavern Licenses issued.	Number of Shop Licenses issued.	Number of Wholesale Licenses issued.	Number of Vessel Licenses issued.	Remarks.
Toronto	1870	241	82	.....	3	
	1871	241	100	.....	3	
	1872	242	122	.....	3	
	1873	282	172	.....	6	
	1874	309	184	21	16	
	1875	299	128	28	9	
	1876	215	100	39	9	
	1877	182	100	26	6	
May 1 to Dec. 31	1878	180	92	20	10	
Hamilton	1870	99	68	.....	9	
	1871	112	81	.....	9	
	1872	118	86	.....	10	
	1873	120	103	.....	1	
	1874	127	93	.....	3	
	1875	110	72			
	1876	68	61	11	1	
	1877	68	55	7	2	
May 1 to Dec. 31	1878	68	61	7	2	
Ottawa	1870	94	52			
	1871	89	63			
	1872	99	77			
	1873	125	87			
	1874	120	77	6		
	1875	114	148	7		
	1876	75	77	7	1	
	1877	75	80	2	1	
May 1 to Dec. 31	1878	71	71			
London	1870	80	31			
	1871	87	36			
	1872	83	31			
	1873	100	40			
	1874	75	40	3		
	1875	75	74	2		
	1876	57	34	5		
	1877	58	35	1		
May 1 to Dec. 31	1878	57	37	1		
Kingston	1870	87	30			
	1871	98	25			
	1872	101	27			
	1873	98	26	.....	1	
	1874	97	25	.....	1	
	1875	75	20	3	1	
	1876	53	23	6	5	
	1877	61	21	3	8	
May 1 to Dec. 31	1878	60	20	3	8	

SCHEDULE B.—*Concluded.*

RECAPITULATION, showing the total number of Licenses issued in the several Counties in the Province, including the Cities, during the years 1870, '1, '2, '3, '4, '5, '6, '7, and '8.

Years.	Tavern.	Shop.	Wholesale.	Vessel.	Total.
1870	4089	1055	.....	25	5169
1871	4299	1151	.....	19	5469
1872	4460	1199	.....	20	5679
1873	4709	1322	....	17	6048
1874	4793	1307	52	33	6185
1875	4459	1257	78	24	5818
1876	2978	785	147	26	3936
1877	2838	733	67	26	3664
May 1 to Dec. 31 1878	2545	659	45	26	3275

The Licenses *extended* for three months from the issue of 1877-8 and 1878-9 do not appear in the above recapitulation, and as a consequence the total number of Licenses issued for the years 1877 and 1878, according to this Statement, does not correspond with the total number as shown in Schedules A and C. An *extended* License is good for three months only. It is not in the nature of a new License, but simply a permission, granted by the Board of Commissioners to the holder of a License expiring in April, to continue his business under the old License for three months, that he may be enabled to dispose of his stock on hand and quit the business without loss. Neither are the six months' Licenses which appear in the same two Schedules, included in this recapitulation.

SCHE

COMPARATIVE STATEMENT by Municipalities, shewing the number of Licenses issued
Accounts for Licenses issued and Fines imposed in each Municipality, and
years 1876-7 and 1877-8, and the period from 1st May to 31st December

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31. 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31. 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31 1878-9.
ALGOMA.	Sault Ste. Marie	1	2	2	1	1	1									
	Howland	2	2	1												
	Assignac	2	2	2												
	ALSO, Eastern Algoma	2	2	3	1	1	1									
ADDINGTON.	Camden	10		13	1		1									
	Sheffield	4		7			1									
	Newburgh	2		2												
	Loughborough	5	4	5												
	Portland	4	4	6												
	Oso	2		2												
	Barrie, Township	1														
	Hinchinbrook	3	2	5												
	Anglesea			1												
	Kaladar	1														
	Palmerston, &c			1												
	Bedford			1												
NORTH BRANT.	Paris, Town	8		7	3		2		1							
	Dumfries, South	5		5												
	Brantford, Township Northerly portion	4		3	8											
	Onondaga	3		3												
SOUTH BRANT.	Brantford, City	21		21	11		8	3	5	5						
	Brantford, Township Southerly portion	6		6				1								
	Oakland	2		2												
	Burford	7		6												
BROCKVILLE AND SOUTH LEEDS.	Brockville, Town	14	19	20	7	8	4								1	
	Gananoque, Village	7	7	6	2	2	2									
	Newboro', Village	2	2	2	2	2	2									
	Bastard and Burgess	5	5	5	1	1	1									
	Rear of Yonge and Escott	3	4	3												
	North Crosby	4	3	4	1		1									
	South Crosby	4	5	3												
	Rear of Leeds and Lansdowne	4	6	5	2	1	1									
	Front of Yonge															
	Elizabethtown		8	8												
	Front of Leeds and Landsdowne															
	Front of Escott															
NORTH BRUCE.	Amabel	4	3													
	Albemarle	1														
	Arran	7	6													
	Bruce	4	3													
	Elderslie	3	3													
	Ottawa, Township															
	Port Elgin	3	3		1	1										
	Paisley	4	4		1	1										
	Southampton, Village	4	4													
	Saugeen	1														

DULE C.

in each Municipality, the gross sums deposited to the credit of the License Fund the Revenue received by the Treasurer of each Municipality during the license of the license year 1878-9.

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
.....	.....	.....	2	3	3	400 00	450 00	450 00	283 00	360 75	346 02	
.....	.....	.....	2	2	1	120 00	120 00	60 00	57 36	60 50	25 30	
.....	.....	.....	2	2	2	130 00	130 00	130 00	62 15	70 50	60 66	
.....	.....	.....	2	3	4	180 00	180 00	240 00	.....	.....	.....	Unorganized territory
.....	.....	....	11	.....	14	720 00	230 00	840 00	327 58	42 48	420 74	Dunkin Act in force in parts of the District, 1877-8.
.....	.....	.. ...	4	.....	8	300 00	200 00	576 40	146 20	40 46	288 99	
.....	.....	.....	2	... ..	2	170 00	50 00	120 00	85 23	10 13	60 13	
.....	.....	.....	5	4	5	340 00	303 00	320 00	154 93	61 39	160 25	
.. ...	.....	.....	4	4	6	260 00	349 60	360 00	115 06	70 71	180 27	
.....	.....	.....	2	.....	2	120 00	60 00	120 00	56 06	12 15	60 13	
.....	.....	.....	1	.....	... .	60 00	.....	.....	26 55	.....	.....	
.....	.....	.....	3	2	5	260 00	160 00	300 00	122 90	32 37	150 23	
.....	.....	.....	.....	.... .	1	40 00	20 00	60 00	{.....}	4 04	30 07	
.....	.....	.....	1	.....					{26 67}			
.....	.....	.....	.....	.....	1	.....	.....	60 00	.....	.....	30 07	
.....	.. ..	.....	.....	.....	1	.....	.....	60 00	.....	.....	30 07	
.....	.....	.....	11	1	9	1,210 00	365 00	960 00	708 02	.....	494 20	Dunkin Act in force 1877-8.
.....	.....	....	5	.....	5	360 00	65 00	300 00	178 76	... .	106 65	
.....	.....	.....	4	.....	3	240 00	....	180 00	119 19	.....	63 57	
.....	.....	...	3	.....	3	180 00	103 00	180 00	89 40	.....	103 68	
.....	.....	.....	35	5	34	4,283 00	1,220 00	4,045 00	2,774 02	.....	2,136 99	Dunkin Act in force 1877-8.
.....	.....	.. .	7	.....	6	463 00	.....	410 00	268 59	.....	197 12	
.....	.....	.....	2	.....	2	123 00	10 00	120 00	69 30	....	57 70	
.....	.....	.....	7	.....	6	469 00	20 00	360 00	268 24	.....	173 09	
.....	.....	.....	1	28	24	2,440 00	3,715 00	3,000 00	1,634 47	2,565 61	2,004 42	
.....	.....	.....	29	9	8	1,440 00	1,760 00	1,280 00	1,123 35	1,298 06	1,031 10	
.....	.....	.....	4	4	4	460 00	320 00	300 00	336 38	191 69	175 55	
.....	.... .	.....	6	6	6	360 00	360 00	360 00	205 90	198 71	173 33	
.....	.....	.....	3	4	3	180 00	240 00	180 00	103 02	132 47	86 66	
.. ..	.....	.....	5	4	5	300 00	240 00	300 00	171 58	132 48	144 50	
... ..	.. ..	.....	4	5	3	260 00	300 00	180 00	150 60	165 58	86 66	
.....	... ..	.....	6	7	6	360 00	420 00	360 00	205 90	206 28	173 33	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dunkin Act in force 1876-7, 1877-8, 1878-9.
.....	... ..	.....	.... .	8	8	60 00	500 00	480 00	52 81	249 06	231 10	Dunkin Act in force 1876-7.
.....	.....	.....	.....	.....	.....	.....	20 00	.....	.....	.....	.....	Dunkin Act in force '76-7, '77-8, '78-9.
.....	.....	.....	.....	.....	.....	80 00	.....	.....	53 89	.....	.....	Dunkin Act in force '76-7, '77-8, '78-9.
.....	.....	.....	4	3	.....	240 00	200 00	.....	119 57	76 56	.....	Dunkin Act in force during part of 1878-9.
.....	. ...	.....	1	.....	.....	60 00	20 00	.....	29 90	.....	.....	
.....	.....	.....	7	6	.....	460 00	380 00	.....	198 27	153 12	.....	
.....	.....	.....	4	3	.....	240 00	240 00	.....	118 01	76 56	.....	
.....	.....	.....	3	3	.....	180 00	180 00	.....	116 36	76 56	.....	
.....	.....	.....	.....	....	.....	.....	.....	.....	37 04	.....	.....	
... ..	.....	.. ...	4	4	.....	480 00	498 00	.....	112 58	302 08	.....	
... .	.....	.....	5	5	....	815 00	775 00	.....	571 10	602 63	.....	
.....	.....	.....	4	4	.....	280 00	240 00	.....	146 24	102 08	.....	
.....	.....	.....	1	.....	.....	80 00	100 00	.....	43 23	.....	.....	

SCHEDULE C.—Comparative Statement, shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.
SOUTH BRUCE.	Kincardine Village	7	8		2	3										
	Carrick	6	9		1	1		1								
	Walkerton	7	6		3	2						1				
	Kinloss	5	3													
	Greenock	6	5					1								
	Culross	1	1													
	Brant	8	8													
	Kincardine Township	4	4		1	1										
	Huron	4	3													
	Lucknow	5	4		2	2										
	Teeswater	4	4		2											
CARDWELL.	Adjala	6	8	9	1	2	1					1				
	Caledon	7	12	8	1	1	1									
	Tecumseth	8	8	11	1	2	2					1				
	Bolton	3	3	3												
	Albion	4	7	9	1	1										
CORNWALL.	Cornwall Township	15	12	14	2	2	2									
	Cornwall Town	8	8	10	4	4	3									
CARLETON.	Huntley	4	4	1		1										
	North Gower	5	5	3												
	Marlborough	1	2	1												
	Goulburn	3	3													
	Richmond Village	1	2	2	1	2	1									
	March	1	1	1				1								
	Nepean	15	21	14			1	1								
	Fitzroy & Tarbolton															
	Osgoode															
DUFFERIN.	Orangeville	7	7	8	2	2	2									
	Mulmur	3	5	6												
	Mono	4	5	4	1	1										
	Melancthon	5			1											
	Garafraxa East	4	3	3												
	Amaranth	6	6	5	1	1	1									
DUNDAS.	Iroquois	3	4	4	1	1	1									
	Matilda	2	3	2	1		1									
	Morrisburgh	4	5	5	3	3	3					1	1			
	Winchester	4	5	5												
	Williamsburgh	5	5	5												
	Mountain	3	6	5												
EAST DURHAM.	Manvers	6	6													
	Cavan	10	10		3	3										
	Hope	3	4													
	Port Hope	14	14	14	6	6	6	2								

NOTE.—In view of the Dunkin Act being in force, a portion of the amount contributed by certain year. This applies also in case of other districts in this schedule where the present note

Licenses issued in the various Municipalities, &c.— *Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
.....	.....	.....	9	11	.....	285 00	1,375 00	.....	1,440 87	958 27	.....	Dunkin Act in force 1878-9.
.....	.....	.....	8	10	.....	212 49	600 00	.....	377 49	315 86	.....	
.....	.....	.....	10	9	.....	820 00	1,063 75	.....	459 00	718 70	.....	
.....	.....	.....	5	3	.....	300 00	240 00	.....	168 44	126 34	.....	
.....	.....	.....	7	5	.....	452 83	312 50	.....	264 03	157 93	.....	
.....	.....	.....	1	1	.....	60 00	60 00	.....	33 68	31 59	.....	
.....	.....	.....	8	8	.....	526 18	500 00	.....	300 31	263 22	.....	
.....	.....	.....	5	5	.....	300 00	350 00	.....	168 44	209 93	.....	
.....	.....	.....	4	3	.....	260 00	180 00	.....	148 08	94 75	.....	
.....	.....	.....	7	6	.....	780 00	700 00	.....	557 95	529 51	.....	
.....	.....	.....	6	4	.....	360 00	450 00	.....	202 14	186 34	.....	
.....	.....	.....	7	11	10	440 00	640 00	600 00	191 16	273 83	278 78	
.....	.....	.....	8	13	9	680 00	1,120 00	630 00	331 38	645 78	340 92	
.....	.....	.....	9	11	13	560 00	705 00	780 00	243 30	317 16	362 42	
.....	.....	.....	3	3	3	430 00	500 00	345 00	266 82	367 49	248 64	
.....	.....	.....	5	8	9	400 00	540 00	540 00	139 03	281 03	250 92	
.....	.....	.....	17	14	16	1,275 00	1,020 00	1,110 00	813 05	585 79	622 95	
.....	.....	.....	12	12	13	2,480 00	2,480 00	2,600 00	1,974 54	1,976 62	2,072 39	
.....	.....	.....	4	5	1	240 00	300 00	60 00	98 48	154 16	21 96	
.....	.....	.....	5	5	3	340 00	300 00	180 00	128 89	154 16	65 83	
.....	.....	.....	1	2	1	60 00	120 00	60 00	24 62	61 67	21 96	
.....	.....	.....	3	3	.....	180 00	180 00	.....	73 86	92 51	.....	
.....	.....	.....	2	4	3	120 00	240 00	180 00	52 14	107 47	65 83	
.....	.....	.....	2	1	1	60 00	230 00	60 00	24 62	35 80	21 96	
.....	.....	.....	16	21	15	1,060 00	1,260 00	900 00	398 43	599 88	329 12	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dunkin Act in force.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	9	9	10	1,530 00	1,430 00	1,500 00	983 11	1,007 60	1,095 85	
.....	.....	.....	3	7	6	180 00	340 00	360 00	87 06	130 74	178 16	
.....	.....	.....	5	6	4	540 00	380 00	240 00	171 70	179 26	118 77	
.....	.....	.....	6	.....	.....	400 00	160 00	.....	200 83	43 91	.....	Dunkin Act in force 1877-8 and part of 1878-9.
.....	.....	.....	4	3	3	260 00	240 00	180 00	129 44	103 19	89 07	
.....	.....	.....	7	7	6	420 00	460 00	360 00	203 19	201 12	178 15	
.....	.....	.....	4	5	5	580 00	605 00	500 00	340 85	414 07	337 67	
.....	.....	.....	3	3	3	180 00	210 00	210 00	94 90	116 45	112 60	
.....	.....	.....	7	9	9	820 00	995 00	975 00	502 21	727 42	701 71	
.....	.....	.....	4	5	5	320 00	375 00	540 00	173 06	222 88	356 02	
.....	.....	.....	5	5	5	314 00	300 00	300 00	150 79	144 07	137 67	
.....	.....	.....	3	6	5	270 00	440 00	300 00	134 82	257 86	137 67	
.....	.....	.....	6	6	.....	360 00	380 00	20 00	206 65	202 28	.....	Dunkin Act in force 1878-9.
.....	.....	.....	13	13	.....	780 00	780 00	20 00	447 54	415 18	.....	
.....	.....	.....	3	4	.....	180 00	240 00	.....	103 29	127 76	.....	
.....	.....	.....	22	20	20	3,040 00	3,120 00	3,000 00	2,214 71	2,203 60	2,200 00	

of the municipalities of this district in 1877-8 was not then dlstributed, but was carried forward to the next is referred to.

SCHEDULE C.—Comparative Statement, shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.
WEST DURHAM.	Darlington	3	3	.....	....	....	.....	....	....	.....	....	1	....	....	....	....
	Cartwright	2	2	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Bowmanville	5	5	.....	2	2	.....	....	....	.....	....	....	....	....	....	....
	Newcastle	4	4	.....	2	1	.....	....	....	.....	....	....	....	....	....	....
	Clarke	5	4	.....	....	....	.....	....	....	.....	....	1	....	....	....	....
ELGIN.	Dunwich	6	6	6	1	1	1	....	....	.....	....	....	....	....	....	....
	Bayham	9	8	8	1	1	1	....	....	.....	....	....	....	....	....	....
	Aldborough	6	6	6	2	....	.....	....	....	.....	....	....	....	....	....	....
	Southwold	7	7	7	....	....	.....	....	....	.....	....	....	....	....	....	....
	South Dorchester	3	3	1	1	1	1	....	....	.....	....	....	....	....	....	....
	Malahide	5	5	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Yarmouth	6	8	10	....	....	.....	....	....	.....	....	....	....	....	....	....
	Vienna	2	2	2	1	1	1	....	....	.....	....	....	....	....	....	....
	Aylmer	4	4	4	1	1	1	....	....	.....	....	....	....	....	....	....
	St. Thomas	13	13	14	7	4	5	2	....	.....	....	....	1	....	....	....
	Port Stanley	5	4	4	2	1	1	....	....	.....	....	....	....	....	....	....
	Springfield	....	....	3	....	....	.....	....	....	.....	....	....	....	....	....	....
NORTH ESSEX.	West Tilbury	6	6	6	....	....	.....	....	....	.....	....	....	....	....	....	....
	Maidstone	2	3	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Windsor	15	15	14	6	8	8	5	1	1	....	....	1	....	....	....
	Rochester	3	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	East Sandwich	8	9	10	1	2	2	1	....	.....	....	....	....	....	....	....
	West Sandwich	3	4	3	....	....	.....	....	....	.....	....	....	1	....	....	....
	Sandwich Town	4	5	5	2	3	3	1	....	.....	....	....	....	....	....	....
	Belle River	3	3	3	1	1	1	....	....	.....	....	....	....	....	....	....
SOUTH ESSEX.	Mersea	2	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Leamington	3	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	Amherstburgh	5	6	5	4	4	4	....	....	.....	....	....	....	....	....	....
	Anderdon	2	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	Malden	1	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Colchester	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Gosfield	5	5	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Kingsville	....	....	1	....	....	.....	....	....	.....	....	....	1	....	....	....
FRONTENAC.	Kingston Township	2	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Storrington	3	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Pittsburgh	5	....	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	Wolfe Island	2	1	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Portsmouth	2	2	2	....	....	.....	1	....	.....	....	....	....	....	....	....
	Hinchinbrooke	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Clarendon and Miller	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Kennebec	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Howe Island	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Garden Island	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
GLENGARRY.	Charlottenburgh	9	10	10	2	2	1	....	....	.....	....	....	....	....	....	....
	Lochiel	6	7	7	3	3	2	....	....	.....	....	....	....	....	....	....
	Lancaster	6	7	8	2	2	3	....	....	.....	....	....	....	....	....	....
	Kenyon	6	4	3	2	1	1	....	....	.....	....	....	....	....	....	....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
....	....	....	3	4	....	240 00	195 00	.....	114 78	66 46	.....	Dunkin Act in force 1878-9. See *Note* to East Durham, *ante*.
....	....	....	2	2	....	160 00	120 00	.....	76 53	40 90	.....	
....	....	....	7	7	....	940 00	920 00	.....	513 93	537 67	.....	
....	....	....	6	5	....	490 00	375 00	.....	243 61	177 24	.....	
....	....	....	5	5	....	480 00	358 75	.....	255 69	150 67	.....	
....	....	....	7	7	7	720 00	680 00	510 00	510 34	502 38	326 64	
....	....	....	10	9	9	640 00	540 00	540 00	374 44	311 73	304 25	
....	....	....	8	6	6	740 00	450 00	450 00	518 22	298 04	292 83	
....	....	....	7	7	7	420 00	440 00	420 00	251 30	253 92	236 64	
....	....	....	4	4	2	260 00	202 00	120 00	151 32	116 61	67 60	
....	....	....	5	5	4	360 00	360 00	240 00	202 66	207 76	135 22	
....	....	....	6	8	10	482 00	580 00	600 00	266 75	334 72	338 06	
....	....	....	3	3	3	200 00	220 00	190 00	126 34	135 46	111 40	
....	....	....	5	5	5	670 00	500 00	500 00	502 44	373 15	369 02	
....	....	....	22	17	20	4,291 00	3,500 00	3,850 00	3,305 66	2,889 65	3,177 72	
....	1	1	7	6	6	955 00	652 50	550 00	706 15	504 49	405 93	
....	....	....	....	....	3	.....	.....	180 00	.....	.....	101 41	
....	....	....	6	6	6	360 00	380 00	360 00	201 23	207 93	185 28	
....	....	....	2	3	2	175 00	200 00	120 00	103 75	109 40	61 76	
....	....	....	26	24	24	3,850 00	4,120 00	3,887 50	2,754 64	3,163 80	2,950 73	
....	....	....	3	3	3	180 00	180 00	180 00	100 61	98 55	92 64	
....	....	....	10	11	12	540 00	720 00	720 00	301 83	393 88	370 54	
....	....	....	3	4	4	210 00	240 00	195 00	120 61	131 40	100 35	
....	....	....	7	8	8	765 00	835 00	835 00	496 66	545 38	524 36	
....	....	....	4	4	4	240 00	260 00	240 00	134 15	285 90	123 51	
....	....	....	2	2	2	.....	140 00	160 00	82 70	60 05	95 53	
....	1	....	3	4	3	180 00	210 00	210 00	78 02	105 06	113 32	
....	....	....	9	10	9	820 00	940 00	900 00	415 25	529 63	513 19	
....	....	....	2	3	3	120 00	180 00	180 00	52 00	90 04	83 32	
....	....	....	1	2	2	60 00	120 00	120 00	26 00	60 03	55 53	
....	....	....	.....	.....	.....	.....	20 00	.....	.....	9 41	.....	
....	.....	....	5	5	4	320 00	300 00	240 00	143 29	147 42	111 04	Dunkin Act in force 1876-7, 1877-8, 1878-9.
....	....	....	....	....	2	.....	.....	100 00	.....	.....	59 73	
....	....	....	2	2	2	190 00	250 00	120 00	55 50	29 45	13 34	
....	....	....	3	2	2	210 00	140 00	120 00	35 64	16 48	13 34	
....	....	....	5	....	3	365 00	165 00	180 00	77 09	19 40	20 00	
....	....	....	2	1	2	140 00	90 00	120 00	27 50	10 61	13 34	
....	....	....	3	2	2	120 00	120 00	120 00	16 30	19 42	13 34	
....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	Dunkin Act in force in portions of the District during certain periods.
....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	
....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	
....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	
....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	
....	....	....	11	12	11	765 00	820 00	690 00	368 46	418 09	339 06	
....	....	....	9	10	9	600 00	640 00	580 00	310 08	343 56	305 35	
....	....	....	8	9	11	620 00	580 00	660 00	339 49	287 25	324 32	
....	....	....	8	5	4	480 00	320 00	240 00	232 07	159 76	117 94	

SCHEDULE C.—Comparative Statement shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.
NORTH GREY.	Owen Sound	7			2			4	5	4						
	Sullivan	3														
	Meaford	5			2											
	Derby	4														
	Keppel	1														
	Sydenham	3														
	St. Vincent	1														
EAST GREY.	Artemesia	4														
	Proton	5														
	Holland	7														
	Collingwood	6			1											
	Euphrasia	1														
	Osprey	2														
SOUTH GREY.	Durham Town	3			2											
	Bentinck	5			1											
	Glenelg	4			1					1						
	Normanby	8			1			1								
	Egremont	3														
HALTON.	Nelson	4	4	5									1			
	Nassagaweya	2	2	2												
	Esquesing	9	7	8				1								
	Burlington, Village	4	4	3									1			
	Georgetown, Village	4	4	4	1											
	Oakville Town	5	5	4	1	1							1			1
	Milton Town	4	4	3												
	Acton Village	2	3	3												
	Trafalgar	5	5	4												
HALDIMAND.	Cayuga Village	5	5	5	1	1	1									
	Caledonia Village	4	4	4	1	1	2									
	Oneida	4	4	3	1	1										
	Cayuga, North	3	4	4												
	Dunn	3	4	4												
	Rainham	4	4	4												
	Walpole	8	12	13												
	Seneca	5	5	5												
HAMILTON.	Hamilton City	68	68	68	61	55	61	11	7	7		5	4		3	1
NORTH HASTINGS.	Marmora and Lake	3	3	3	1	1	1									
	Huntingdon	3	3	3												
	Stirling	3	3	3	1	2	2									
	Madoc	4	4	2	2	1										
	Elzevir and Grimsthorpe	2	2	2												
	Tudor, Wollaston and Cashel	2	2													
	Tudor, Wollaston and Limerick			3												
	Herschel and Monteagle	1		1												
	Rawdon	2	2	2												
	Madoc Village			3			2									
	Monteagle and Cashel		1													

Licenses issued in the various Municipalities, &c.—*Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
.....	.....	....	13	5	4	1,559 90	760 00	600 00	515 95	.....	.....	
.....	.....	... .	3	.....	.....	220 00	60 00	.....	78 89	.....	.....	
.....	.....	.....	7	.....	.....	700 00	290 00	.....	309 87	.....	.....	Dunkin Act in force 1877-8, and during first part of 1878-9.
.....	.....	.....	4	.....	.....	260 00	60 00	.....	93 93	.....	.....	
.....	.....	... .	1	.....	.....	130 00	.....	.....	35 46	....	.....	
.....	.....	.....	3	... ..	.....	240 00	.....	.....	90 24	.....	.....	
.....	.....	.. ..	1	.....	.....	80 00	.....	.....	20 25	.....	.....	
.....	.....	.....	4	.....	.....	540 00	20 00	.....	335 44	.....	.....	
.....	.....	.....	5	.....	.....	395 00	60 00	.....	206 64	.....	.....	Dunkin Act in force 1877-8, and during first part of 1878-9.
.....	.....	.....	7	.....	.....	440 00	105 00	.....	201 84	.....	.....	
.....	.....	.....	7	.....	.....	530 00	95 00	.....	263 26	.....	.....	
.....	.....	... .	1	.....	.....	80 00	.....	.....	40 27	.....	.....	
.....	.....	.....	2	.....	.....	240 00	.....	.....	53 86	.....	.....	
.....	.....	.....	5	} 1	.....	600 00	20 00	.....	352 45	.....	.....	Dunkin Act in force 1877-8, and during first part of 1878-9.
.....	.....	.....	6		.....	360 00	20 00	.....	171 46	.....	.....	
.....	.....	... .	5		.... .	340 00	.....	.....	164 06	.....	.....	
.....	.....	.. ..	10		.....	560 00	160 00	.....	270 49	.....	.....	
.....	.....	.....	3		... ..	200 00	.....	.....	99 06	.....	.....	
.....	.....	.....	4	4	6	260 00	240 00	305 00	128 90	125 13	142 16	
.....	.....	.....	2	2	2	140 00	141 00	120 00	71 08	76 57	55 94	
.....	.....	... .	10	7	8	625 00	630 00	560 00	323 20	444 11	303 75	
.....	.....	.....	4	4	4	420 00	400 00	325 00	259 14	284 93	220 89	
.....	.....	.....	5	4	4	380 00	280 00	280 00	209 52	165 13	151 86	
.....	.....	.....	6	6	6	600 00	600 00	450 00	328 71	370 25	257 80	
.....	.....	.....	4	4	3	520 00	480 00	360 00	307 27	326 81	231 86	
.....	.....	.....	2	3	3	170 00	252 00	300 00	95 52	161 53	203 90	
.....	.....	....	5	5	4	445 00	395 00	300 00	252 08	244 75	171 86	
.....	.....	.....	6	6	6	487 00	480 00	480 00	279 11	310 33	313 22	
.....	.....	.....	5	5	6	600 00	620 00	720 00	387 26	469 19	552 91	
.....	.....	.....	5	5	3	300 00	300 00	180 00	146 98	158 62	97 55	
.....	.....	.....	3	4	4	220 00	240 00	240 00	107 79	126 90	128 63	
.....	.....	.....	3	4	4	180 00	240 00	240 00	88 20	126 90	128 63	
.....	.....	.....	4	4	4	240 00	240 00	240 00	117 59	126 90	128 63	
.....	.....	.....	8	12	13	480 00	720 00	780 00	246 40	380 68	417 52	
.....	.....	.....	5	5	5	440 00	400 00	400 00	251 75	258 62	260 87	
.....	1	1	140	139	142	25428 00	24371 68	20817 50	19081 74	17848 48	14470 76	
.....	.....	.....	4	4	4	240 00	240 00	240 00	100 39	107 12	100 00	
.....	.....	.....	3	3	3	180 00	180 00	180 00	75 34	80 33	75 00	
.....	.....	.....	4	5	5	300 00	300 00	300 00	100 39	133 90	125 00	
.....	.....	....	6	5	2	360 00	300 00	120 00	166 46	133 91	50 00	
.....	.....	.....	2	2	2	120 00	120 00	120 00	50 20	53 56	50 00	
.....	.....	.....	2	2	.....	.....	140 00	.....	50 20	66 90	.....	
.....	.....	.....	....	.....	3	.....	.....	180 00	... .	.....	75 00	
.....	.....	.....	1	.....	1	.....	.....	60 00	25 14	2 81	25 00	
.....	.....	.....	2	2	2	140 00	120 00	120 00	55 47	53 56	50 00	
.....	.....	.....	.....	.....	5	....	.....	240 00	.....	.. ..	100 00	
.....	.....	.....	.....	1	.....	60 00	23 98	60 00	.....	23 98	.....	

SCHEDULE C.—Comparative Statement shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876 7.	1877-8.	1st May to 31st Dec., 1878-9.
EAST HASTINGS.	Tyendinaga	11	10	13	....	1	.....	....	....	.....	....	....	....	....	....	....
	Hungerford	6	6	6	1	1	1	....	....	.....	....	....	....	....	....	....
	Thurlow	8	9	10	....	....	.....	....	....	.....	....	....	....	....	....	....
	Millpoint	....	3	2	....	....	.....	....	....	.....	....	....	....	....	....	....
WEST HASTINGS.	Belleville	21	24	24	5	6	6	3	3	3	....	....	1	....	....	....
	Trenton	7	7	7	1	2	2	....	....	.....	....	....	....	....	....	....
	Sidney	3	3	4	....	....	.....	....	....	.....	....	....	....	....	....	....
EAST HURON.	Grey	5	8	7	....	....	.....	....	....	.....	....	....	1	....	....	....
	McKillop	2	4	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Hullett, East part	2	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Morris	5	2	1	....	....	.....	....	....	.....	....	....	....	....	....	....
	Howick	7	9	9	1	....	.....	....	....	.....	....	....	....	....	....	....
	Turnberry, East part	2	3	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Brussels	4	5	5	1	1	1	....	....	.....	....	2	....	....	....	....
	Wroxeter	3	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
SOUTH HURON.	Exeter	5	5	5	2	2	3	....	....	.....	....	....	....	....	....	....
	Seaforth	6	6	7	2	2	2	....	....	.....	....	....	1	....	....	....
	Goderich Tp., S. part	1	1	1	....	....	.....	....	....	.....	....	....	....	....	....	....
	Bayfield	4	4	4	2	2	2	1	....	.....	....	....	....	....	....	....
	Stephen	8	10	10	....	....	.....	....	....	.....	....	....	1	....	....	....
	Usborne	4	4	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Hay	6	6	7	....	....	1	....	....	.....	....	....	....	....	....	....
	Tuckersmith	3	3	2	1	1	1	1	....	.....	....	....	1	....	....	....
	Stanley	4	4	4	....	....	.....	....	....	.....	....	....	....	....	....	....
WEST HURON.	Goderich Town	10	9	9	3	3	3	....	....	.....	....	....	....	....	....	....
	Goderich Tp., N. part	1	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Wawanosh East	2	1	1	....	....	.....	....	....	.....	....	....	....	....	....	....
	Hullett, West part	2	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Wawanosh West	2	3	2	....	....	.....	....	....	.....	....	....	1	....	....	....
	Turnberry, W. part	1	1	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Wingham	5	6	6	2	2	3	....	....	.....	....	....	....	....	....	....
	Clinton	7	7	7	2	2	2	....	....	.....	....	....	....	....	....	....
	Ashfield	4	4	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Colborne	8	8	7	....	....	.....	1	....	.....	....	....	....	....	....	....
	Blythe	....	4	4	....	1	1	....	....	.....	....	....	....	....	....	....
EAST KENT.	Howard	8	4	4	4	3	3	....	....	.....	....	....	....	....	....	....
	Blenheim Village	4	4	3	....	2	.....	....	....	.....	....	....	....	....	....	....
	Dresden	4	4	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Thamesville	3	3	3	1	1	1	....	....	.....	....	....	....	....	....	....
	Camden	3	3	1	....	....	.....	....	....	.....	....	....	....	....	....	....
	Bothwell	4	4	4	1	1	1	....	....	.....	....	....	....	....	....	....
	Harwich	7	8	8	1	1	1	....	....	.....	....	....	....	....	....	....
	Orford	8	8	7	....	....	.....	1	....	.....	....	....	....	....	....	....
	Ridgetown	....	3	3	....	1	1	....	....	.....	....	....	....	....	....	....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
....	....	.....	11	11	13	720 00	680 00	780 00	266 84	329 19	354 77	
....	....	.....	7	7	7	440 00	459 00	420 00	162 16	227 00	191 10	
....	....	.....	8	9	10	540 00	605 00	600 00	206 27	301 76	272 90	
....	....	.....	....	3	2	100 00	620 00	400 00	56 21	519 46	54 57	Dunkin Act in force, 1876-7.
....	....	.....	29	33	34	4,720 00	5,310 00	5,287 50	3516 81	4040 32	3742 69	
....	....	.....	8	9	9	1,200 00	1,350 00	1,125 00	956 59	1113 69	884 90	
....	....	.....	3	3	4	300 00	180 00	240 00	219 16	101 24	133 26	
....	....	.....	5	8	8	450 00	500 00	435 00	204 47	240 54	195 35	
....	....	.....	2	4	4	120 00	240 00	240 00	52 44	112 88	107 89	
....	....	.....	2	2	2	120 00	120 00	120 00	52 44	57 99	53 90	
....	....	.....	5	2	1	420 00	245 00	60 00	185 95	111 94	26 96	
....	....	.....	8	9	9	610 00	600 00	540 00	273 21	286 82	242 50	
....	....	.....	2	3	4	120 00	180 00	240 00	72 34	86 96	107 79	
....	....	.....	5	8	6	743 00	820 00	800 00	455 15	614 86	601 67	
....	....	.....	3	3	3	320 00	225 00	225 00	181 04	131 99	125 74	
....	....	.....	7	7	8	560 00	540 00	630 00	339 73	345 37	398 85	
....	....	.....	8	8	10	1,780 00	1,660 00	1,462 50	1267 79	1343 13	1126 58	
....	....	.....	1	1	1	60 00	60 00	60 00	31 64	32 20	32 26	
....	....	.....	7	6	6	420 00	440 00	400 00	235 80	257 04	233 57	
....	....	.....	8	10	10	560 00	620 00	615 00	299 47	335 20	330 89	
....	....	.....	4	4	4	309 00	280 00	240 00	160 25	155 24	129 04	
....	....	.....	6	6	8	460 00	380 00	480 00	246 67	203 91	258 09	
....	....	.....	5	4	4	300 00	240 00	195 00	161 29	128 77	104 84	
....	....	.....	4	4	4	280 00	280 00	240 00	149 72	150 24	129 04	
....	....	.....	13	12	12	1,920 00	1,640 00	1,500 00	1307 64	1113 89	1032 73	
....	....	.....	1	....	.....	60 00	20 00	.....	32 17	10 91	.....	
....	....	.....	2	1	1	140 00	105 00	60 00	75 06	55 71	30 80	
....	....	.....	2	2	2	140 00	120 00	120 00	75 06	62 33	61 59	
....	....	.....	2	3	3	140 00	180 00	135 00	77 67	93 48	69 29	
....	....	.....	1	1	2	100 00	120 00	120 00	58 84	63 89	61 59	
....	....	.....	7	8	9	480 00	630 00	715 00	262 66	385 66	297 66	
....	....	.....	9	9	9	1,295 00	1,318 25	1,175 00	872 32	952 51	824 51	
....	....	.....	4	4	4	240 00	260 00	240 00	128 69	135 03	123 18	
....	....	.....	9	8	7	500 00	525 00	438 00	270 85	279 29	.....	
..	....	.....	....	5	5	.....	460 00	395 00	.....	277 10	239 23	
....	....	.....	12	7	7	740 00	420 00	420 00	409 80	228 26	203 36	
....	....	.....	4	6	3	320 00	580 00	255 00	203 90	415 71	162 14	
....	....	.....	4	4	4	400 00	480 00	400 00	274 87	343 75	276 22	
....	....	.....	4	4	4	355 00	375 00	375 00	209 83	265 43	251 21	
....	....	.....	3	3	1	180 00	180 00	60 00	99 67	97 81	29 06	
....	....	.....	5	5	5	770 00	790 00	620 00	537 18	594 06	413 16	
....	....	.....	8	9	9	540 00	600 00	540 00	281 37	343 48	261 47	
....	...	.....	9	8	7	500 00	480 00	420 00	271 18	260 88	203 35	
....	....	.....	....	4	4	.....	445 00	425 00	.....	326 28	301 24	

SCHEDULE C.—Comparative Statement, shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.
WEST KENT.	Chatham Town	16	16	13	5	5	4	2	.....	.....	.....	.....	.....	.....	.....	.....
	Chatham Township	3	3	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Dover	3	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Wallaceburg	3	4	4	1	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....
	Romney	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Tilbury, East	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Raleigh	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
KINGSTON.	Kingston City	53	61	60	23	21	20	6	3	3	.....	.....	.....	.....	.....	.....
EAST LAMBTON.	Forest Village	4	4	4	2	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Bosanquet	3	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Warwick	3	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Brooke	4	4	2	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Wyoming	3	3	3	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Watford	4	4	4	3	2	2	.....	.....	.....	.....	.....	.....	.....	1	.....
	Euphemia	3	3	2	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Plympton	.....	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Arkona Village	.....	2	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Thedford Village	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
WEST LAMBTON.	Petrolia	7	7	8	3	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Moore	7	7	8	2	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Sarnia Township	7	7	7	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Sombra	6	5	6	3	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Oil Springs	2	2	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Enniskillen	3	3	3	1	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Dawn	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Sarnia Town	8	7	8	8	7	7	1	.....	.....	.....	1	.....	.....	.....	.....
NORTH LANARK.	Lanark Village	2	2	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Pakenham	3	3	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Dalhousie	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Almonte	4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Carleton Place	4	4	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Lanark Township	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Darling	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Ramsay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SOUTH LANARK.	Perth Town	7	7	7	4	4	4	2	.....	.....	.....	.....	.....	.....	.....	.....
	Smith's Falls	4	4	.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	South Sherbrooke	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Beckwith	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Bathurst	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Drummond	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	North Elmsley	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Montague	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
.....	.....	.....	23	21	17	7,600 85	7,200 00	5,810 00	6,308 00	6,313 24	5,054 45	
.....	.....	.....	3	3	4	260 00	315 00	320 00	161 85	185 02	186 67	
.....	.....	.....	3	3	3	265 00	225 00	225 00	148 00	131 26	125 00	
.....	.....	.....	5	5	5	620 00	650 00	630 00	474 56	487 10	463 33	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dunkin Act in force 1876-7, 1877-8, and part of 1878-9.
.....	.....	.....	.....	.....	.....	.....	66 08	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	80 00	181 15	20 00	.....	33 21	.....	
.....	.....	.....	82	85	83	13915 00	13044 00	11950 00	10,007 72	9,137 02	8,300 00	
.....	.....	.....	6	6	6	720 00	680 00	680 00	486 60	498 75	494 17	
.....	.....	1	4	2	1	455 00	220 00	50 00	301 40	152 91	34 51	
.....	.....	.....	3	1	2	180 00	60 00	120 00	93 52	29 78	58 05	
.....	.....	.....	5	5	3	300 00	300 00	205 00	155 87	148 97	112 08	
.....	.....	.....	4	4	4	320 00	320 00	320 00	192 94	199 19	196 11	
.....	.....	.....	7	7	6	500 00	485 00	700 00	338 22	289 51	514 17	
.....	.....	.....	4	4	3	240 00	350 00	275 00	124 70	229 19	182 07	
.....	.....	.....	.....	3	3	160 28	200 00	180 00	74 38	102 70	87 08	Dunkin Act in force, 1876-7.
.....	.....	.....	.....	3	2	.....	360 00	220 00	.....	262 70	158 05	
.....	.....	.....	.....	.....	3	.....	.....	375 00	.....	.....	282 01	
.....	.....	.....	10	10	11	860 00	860 00	880 00	494 61	492 50	502 28	
.....	.....	.....	9	9	10	580 00	560 00	600 00	333 66	318 77	342 46	
.....	.....	.....	8	8	8	620 00	580 00	560 00	402 22	362 88	353 96	
.....	.....	.....	9	7	9	580 00	520 00	540 00	333 66	303 92	308 21	
.....	.....	.....	3	2	2	180 00	120 00	120 00	106 59	67 87	68 48	
.....	.....	.....	4	5	6	260 00	300 00	360 00	149 08	169 65	205 47	
.....	.....	.....	1	1	1	60 00	60 00	60 00	35 54	33 94	34 23	
.....	1	.....	17	16	15	2,440 00	2,232 00	2,250 00	1,808 34	1,713 06	1,734 93	
.....	.....	.....	3	3	.....	350 00	350 00	.....	187 94	233 48	.....	
.....	.....	.....	4	4	.....	325 00	319 75	.....	133 30	84 64	.....	Dunkin Act in force, 1878-9.
.....	.....	.....	2	2	.....	120 00	120 00	.....	45 02	42 32	.....	
.....	.....	.....	4	4	.....	425 00	420 00	.....	212 74	244 64	.....	
.....	.....	.....	5	5	.....	639 75	560 00	.....	323 99	325 80	.....	
.....	.....	.....	.....	.....	.....	40 00	35 00	.....	20 37	.....	.....	Dunkin Act in force, 1876-7, 1877-8, 1878-9.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	60 00	142 00	.....	30 55	.....	.....	See *Note* to East Durham, *ante*.
.....	.....	.....	13	11	11	1,670 00	1,650 00	1,650 00	1,068 03	1,060 17	1,056 67	
.....	.....	.....	6	6	.....	1,010 00	950 00	.....	691 39	708 70	.....	
.....	.....	.....	1	1	.....	60 00	60 00	.....	29 05	19 78	.....	
.....	.....	.....	2	2	.....	120 00	120 00	.....	58 08	39 56	.....	Dunkin Act in force, 1878-9.
.....	.....	.....	1	1	.....	95 00	60 00	.....	53 87	19 78	.....	
.....	.....	.....	2	2	.....	170 00	130 00	.....	91 40	49 56	.....	
.....	.....	.....	.....	.....	.....	20 00	.....	.....	9 68	.....	.....	Dunkin Act in force, 1876-7, '77-8, '78-9.
.....	.....	.....	.....	.....	.....	20 00	.....	.....	9 60	.....	.....	

SCHEDULE C.—Comparative Statement, shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	1st May to 31st Dec. 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1877-8.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.
LEEDS AND GRENVILLE, NORTH, AND SOUTH GRENVILLE.	Prescott Town	9	9	9	4	4	4	2	....	....	....	....	....	....	....	....
	Edwardsburgh	8	7	7	1	1	1	....	....	....	....	....	....	....	....	....
	Elmsley	1	3	2	....	....	....	....	....	....	....	....	....	....	....	....
	Kemptville	4	4	4	3	3	1	....	....	....	....	....	....	....	....	....
	Kitley	5	5	5	....	....	....	....	....	....	....	....	....	....	....	....
	Oxford	4	3	2	....	....	....	....	....	....	....	....	....	....	....	....
	Augusta	5	5	5	....	1	1	1	....	....	....	....	....	....	....	....
	Merrickville Village	....	3	3	....	1	1	....	....	....	....	....	....	....	....	....
	Wolford	....	2	2	....	....	....	....	....	....	....	....	....	....	....	....
	South Gower	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
LENNOX.	Napanee	6	....	8	3	....	2	1	1	....	....	....	....	....	....	....
	Bath	2	....	2	2	....	2	....	....	....	....	....	....	....	....	....
	Adolphustown	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....
	Amherst Island	2	....	2	....	....	....	....	....	....	....	....	....	....	....	....
	S. Fredericksburgh	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Ernestown	....	..	....	....	....	....	....	....	....	....	....	....	....	....	....
	N. Fredericksburgh	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
LINCOLN.	Niagara Township	4	4	3	....	....	....	....	....	....	....	....	....	....	....	....
	St. Catharines	31	34	33	21	19	16	....	....	....	....	....	1	....	1	....
	Grimsby Township	3	3	3	1	1	1	....	....	....	....	....	....	....	....	....
	Grantham	4	2	2	1	....	....	....	....	....	....	1	....	....	....	....
	Merritton	5	5	6	2	1	....	....	....	....	....	....	....	....	....	....
	Louth	4	4	4	....	....	....	....	....	....	....	....	....	....	....	....
	Port Dalhousie	4	4	5	....	1	....	....	....	....	....	....	....	....	....	....
	Clinton	3	3	3	1	1	1	....	....	....	....	....	....	....	....	....
	Grimsby Village	2	2	2	1	....	....	....	....	....	....	....	....	....	....	....
	Niagara Town	5	5	6	4	2	2	....	....	....	....	....	....	....	....	....
LONDON.	London, City	57	58	57	34	35	37	5	1	1	....	3	2	....	1	....
EAST MIDDLESEX.	London Township	21	25	25	5	2	1	....	....	....	....	....	....	....	....	....
	North Dorchester	8	8	8	1	1	....	....	....	....	....	....	....	....	....	....
	Petersville	2	2	2	1	1	1	1	....	....	....	....	....	....	....	....
	Westminster	17	19	19	1	1	1	....	....	....	....	....	....	....	....	....
	London East, Village	7	7	9	3	4	5	....	....	....	....	....	....	....	....	1
	West Nissouri	3	3	3	....	1	....	....	....	....	....	....	....	....	....	....
NORTH MIDDLESEX.	East Williams	3	3	3	....	....	....	....	....	....	....	....	....	....	....	....
	McGillivray	6	6	4	....	....	....	....	....	....	....	....	....	....	....	....
	Adelaide	3	4	4	....	....	....	....	....	....	....	....	....	....	....	....
	Biddulph	3	5	5	2	1	1	....	....	....	....	....	....	....	....	....
	Ailsa Craig	3	3	3	1	2	2	....	....	....	....	....	....	....	....	....
	Lobo	5	5	5	....	....	....	....	....	....	....	....	....	....	....	....
	Parkhill	5	5	6	1	1	1	....	....	....	....	....	....	....	....	....
	Lucan	5	5	4	2	2	2	....	....	....	....	....	....	....	....	....
	West Williams	1	3	3	....	....	....	....	....	....	....	....	....	....	....	....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
....	....	....	15	13	13	1,985 00	1,960 00	1,940 00	1,327 69	1,468 35	1,392 13	
....	....	....	9	8	8	560 00	480 00	480 00	287 98	271 17	227 13	
....	....	....	1	3	2	60 00	200 00	120 00	30 87	115 01	56 73	
....	....	....	7	7	5	700 00	620 00	820 00	453 34	437 28	651 40	
....	....	....	5	5	5	320 00	300 00	300 00	167 65	169 42	142 00	
....	....	....	4	3	2	240 00	180 00	120 00	123 45	101 68	56 74	
....	....	....	6	6	6	360 00	360 00	360 00	154 29	203 37	170 27	
....	....	....	....	4	4	20 00	413 33	400 00	.....	175 58	273 54	Dunkin Act in force
....	....	....	....	2	2	.....	180 03	120 00	.....	97 80	56 74	do 1876-7.
....	....	....	....	....	....	.....	30 00	60 00	.....	.....	.....	do do 1877-8, 1878-9.
....	....	....	10	1	10	1,920 00		2000 00	1,216 74	.....	1,448 96	
....	....	....	4	....	4	240 00		240 00	106 47	.....	74 91	
....	....	....	1	....	1	60 00		60 00	26 62	.....	18 73	Dunkin Act in force 1877-8.
....	....	....	2	....	2	140 00	688 95	120 00	64 64	.....	37 40	
....	....	....	....	....	....	20 00		.....	8 88	.....	.....	
....	....	....	....	....	....	137 75		.....	.....	.....	.....	Dunkin Act in force 1876-7 and 1877-8.
....	....	....	....	....	....	.....		.....	.....	.....	.....	
....	....	....	4	4	3	260 00	280 00	180 00	145 98	163 21	100 15	
...	1	.....	52	55	50	7,055 00	6,837 50	6,207 50	4,404 40	4,467 29	4,003 76	
....	....	....	4	4	4	380 00	240 00	160 00	257 47	168 86	133 54	
....	....	....	5	3	2	300 00	155 00	120 00	166 44	90 13	66 75	
....	1	....	7	7	6	830 00	625 00	517 50	574 06	443 19	364 50	
....	....	....	4	4	4	240 00	260 00	240 00	133 14	149 59	133 54	
....	....	1	4	5	6	1,010 00	685 00	900 00	766 31	533 36	780 24	
....	....	....	4	4	4	880 00	433 00	240 00	257 48	196 26	133 54	
....	....	....	3	2	2	310 00	210 00	240 00	210 89	68 86	106 75	
....	....	1	9	7	9	840 00	580 00	600 00	474 63	331 27	333 91	
....	....	....	96	98	97	13110 00	12116 30	11485 00	9,140 79	7,847 04	7,485 00	
.....	....	.....	26	27	26	1,732 00	1,720 00	1,560 00	977 67	704 27	853 01	
.....	....	....	9	9	8	600 00	560 00	480 00	340 29	315 77	262 54	
....	....	....	4	3	3	390 00	440 00	340 00	274 66	351 51	258 39	
....	....	....	18	20	20	1,230 00	1,242 00	1,200 00	693 96	697 02	656 51	
....	....	....	10	11	15	1,190 00	1,625 00	1,556 25	813 90	1,248 18	1,168 97	
....	....	....	3	4	3	.....	300 00	180 00	100 09	174 32	98 46	
....	....	....	3	3	3	180 00	.....	180 00	91 60	105 28	82 20	
....	....	....	6	6	4	380 00	420 00	240 00	190 78	221 13	109 60	
....	....	....	3	4	4	220 00	280 00	240 00	106 80	144 97	109 60	
....	....	....	5	6	6	340 00	380 00	360 00	167 85	200 09	164 43	
...	....	....	4	5	5	315 00	425 00	405 00	185 28	273 49	242 00	
....	....	....	5	5	5	300 00	340 00	300 00	152 65	179 03	137 00	
....	....	....	6	6	7	615 00	575 00	595 00	379 46	417 98	388 54	
....	....	....	7	7	6	700 00	700 00	600 00	449 53	500 93	404 43	
....	....	....	1	3	3	80 00	180 00	180 00	38 13	94 77	82 20	

SCHEDULE C.—Comparative Statement shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.
WEST MIDDLESEX.	Ekfrid	3	4	4												
	Strathroy Town	8	8	8	7	4	4	2								
	Wardsville	2	3	3												
	Metcalfe	2	4	4												
	Delaware	2	2	2	1	1	1									
	Caradoc	6	7	7		1										
	Glencoe	3	4	4												
	Mosa	1	1	1												
	Newbury	3	3	3	1	1										
MONCK.	Wainfleet	5	3	3												
	Canborough	2	1													
	Caistor	2	1	1												
	Sherbrooke	1	1	1												
	Moulton	1														
	Dunnville	5	5	4	2	1	1									
	Gainsborough	3	3	3												
	Pelham															
MUSKOKA AND PARRY SOUND.	Morrison	1	1	1												
	Bracebridge	4	4	4												
	McKellar	1	1	1												
	Foley	2	2	2												
	Stephenson	2	2	2												
	Wood and Medora	1	1	1												
	Macaulay	1	1	1												
	Muskoka	3	3													
	McDougall															
	Draper, Ryde, and Oakley															
	Humphrey		2	2												
	Gravenhurst			3												
	McLean and Ridout															
	Unorganized Territory of this License District, including the Townships of Chaffey, Spence, Chapman and Perry	2	5	10												
NIPISSING.	Nipissing District			2		1	1									
NORFOLK.	Middleton	8	8	9	1	1	1					1				
	Townsend	3	3	2		1										
	Walsingham	6	6	6												
	Simcoe	7	8	9	3	2	2	2	1							
	Windham	10	9	9												
	Woodhouse	6	6	6		1	1									
	Charlotteville	9	8	8									1			
	Houghton	2	2	2												
	Waterford			2			1									
EAST NORTHUMBERLAND.	Seymour	1	1													
	Murray	3	3													
	Cramahe	2	2													
	Brighton Township															
	Percy	3	3		1	1										
	Colborne	4	3		3	2										
	Campbellford	4	4		2	2										
	Hastings	3	3		2	2										
	Brighton Village	4	5		1	1										

Licenses issued in the various Municipalities, &c.—*Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	May 1 to Dec. 31, 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
.....	.....	.....	3	4	4	240 00	247 00	240 00	136 42	132 49	130 31	
.....	.....	.....	17	12	12	1,500 00	1,620 00	1,600 00	902 89	1161 90	1161 46	
.....	.....	.....	2	3	3	150 00	245 00	225 00	90 30	154 21	142 78	
.....	.....	....	2	4	4	160 00	240 00	240 00	90 91	127 83	130 38	
.....	.....	.....	3	3	3	200 00	180 00	330 00	109 69	95 87	247 78	
.....	.....	.....	6	8	7	445 00	521 00	420 00	246 22	282 96	228 16	
.....	....	.....	3	4	4	320 00	360 00	360 00	207 93	247 83	250 41	
.....	.....	....	1	1	1	80 00	80 00	60 00	42 83	45 28	32 60	
.....	.....	.....	4	4	3	325 00	459 00	255 00	202 33	352 16	172 78	
.....	.....	.....	5	3	3	300 00	180 00	180 00	142 60	57 08	27 70	
.....	.....	.....	2	1	.....	120 00	60 00	.....	57 00	19 02	.....	
.....	.....	.....	2	1	1	120 00	120 00	60 00	57 00	38 05	9 22	
.....	.....	.....	1	1	1	60 00	60 00	60 00	28 50	19 02	9 22	
.....	.....	.....	1	.....	.....	60 00	.....	.....	28 50	....	.....	
.....	.....	.....	7	6	5	1,040 00	826 00	680 00	695 27	562 44	426 16	
.....	.....	.....	3	3	3	200 00	180 00	180 00	98 87	57 08	27 70	
.....	.....	.....	.....	.....	.....	.....	99 65	.....	.....	31 59	.....	Dunkin Act in force 1877-8.
.....	.....	....	1	1	1	60 00	80 00	60 00	24 74	40 50	27 04	
.....	.....	.....	4	4	4	420 00	320 00	320 00	231 01	201 51	188 15	
.....	....	.....	1	1	1	60 00	60 00	60 00	24 74	30 36	27 04	
.....	.....	.....	2	2	2	120 00	120 00	120 00	49 48	40 73	54 08	
.....	.....	.....	2	2	2	120 00	120 00	120 00	49 48	60 73	54 08	
.....	.....	.....	1	1	1	60 00	60 00	60 00	24 74	30 36	27 04	
.....	.....	.....	1	1	1	60 00	85 00	60 00	24 74	41 66	27 04	
.....	.....	.....	3	3	.....	180 00	180 00	.....	74 22	91 07	.....	
...	....	.....	.....	.....	.....	.....	35 26	....	.....	9 03	.....	Dunkin Act in force.
.....	.....	.....	.....	.....	.....	25 00	.....	.....	15 96	.....	.....	
.....	1	.....	.....	3	2	.....	150 00	120 00	.....	74 27	54 08	
.....	.....	.....	.....	.....	3	.....	.....	180 00	.....	.....	81 12	
.....	.....	....	.....	.....	.....	.....	20 00	.....	.....	9 03	.....	
.....	.. ...	... .	2	5	10	120 00	300 00	600 00	.....	.....	.....	
.....	.....	.....	.....	1	3	.....	120 00	180 00	.....	.....	....	Unorganized Territory.
... .	.....	.....	9	10	10	620 00	660 00	600 00	328 49	350 22	314 32	
.....	.....	.....	3	4	2	180 00	240 00	120 00	95 68	123 73	62 87	
.....	.....	.....	6	6	6	360 00	400 00	360 00	191 38	210 02	183 60	
.....	.....	.....	12	13	11	1,006 00	1,269 00	1,120 00	633 38	814 72	691 47	
.....	.....	.....	10	9	9	620 00	560 00	540 00	329 05	290 66	282 90	
.....	.....	.....	6	7	7	555 00	500 00	420 00	290 16	258 70	220 03	
.....	.....	.....	9	8	9	580 00	520 00	495 00	307 23	271 88	259 32	
.....	.....	.....	2	2	2	140 00	120 00	120 00	73 85	61 91	62 87	
.....	.....	.....	.....	.....	3	.....	.....	270 00	.....	.....	184 30	
.....	.....	.....	1	1	.....	80 00	80 00	.....	39 96	26 48	....	Dunkin Act in 1878-9.
.....	.....	.....	3	3	.....	200 00	180 00	.....	90 40	79 41	.....	
.....	.....	.....	2	2	.....	180 00	180 00	.....	99 95	112 98	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	do '76-7, '77-8, '78-9.
.....	.....	.....	4	4	... .	320 00	320 00	.....	168 83	185 91	.....	Dunkin Act in force 1878-9.
.....	.....	... .	7	5	.....	420 00	360 00	.....	210 29	132 46	.....	
.....	1	.....	6	7	.....	360 00	405 00	.....	159 92	172 20	.....	
.....	.....	.....	5	5	.....	400 00	420 00	.....	210 97	232 46	.....	*Note* to East Durham, *ante*.
.....	.....	.....	5	6	.....	355 00	380 00	.....	169 84	158 95	....	

SCHEDULE C.—Comparative Statement, shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended. Tavern.			Extended. Shop.		
		1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.
WEST NORTHUMBERLAND.	Alnwick	1	1	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	South Monaghan ...	3	3	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Haldimand	3	3	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Hamilton Township	7	8	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Cobourg Town.....	12	12	12	5	5	5	2	2	.....	....	3	....	....	....	....
OTTAWA.	Ottawa City.....	75	75	71	77	80	71	7	2	.. ...	....	....	....	....	....	....
NORTH ONTARIO.	Reach.....	6	8	.....	....	....	.....	....	....	.. ...	....	....	....	....	....	....
	Uxbridge Village....	4	4	.....	1	....	.....	....	....	.....	....	....	....	....	....	....
	Brock.....	9	8	.....	1	1	.....	....	....	.....	....	....	....	....	....	....
	Mara	6	4	.....	1	1	.....	....	....	.....	....	....	....	....	....	....
	Thorah	4	3	.....	1	1	.....	....	....	.....	....	....	....	....	....	....
	Port Perry	4	4	.....	2	2	.....	....	....	.....	....	....	....	....	....	....
	Uxbridge Township .	4	4	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Scott	2	2	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Rama Township	....	1	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
SOUTH ONTARIO.	Oshawa Village	5	4	.....	1	1	.....	....	....	.....	....	....	....	....	....	....
	Whitby Town	7	7	.....	3	3	.....	....	....	.....	....	....	....	....	....	....
	Whitby Township ..	2	2	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Whitby East, Tp....	3	3	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Pickering.....	4	4	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
SOUTH OXFORD.	Ingersoll Town	11	11	11	3	3	2	1	....	.....	....	....	....	....	....	....
	Tilsonburg	4	4	4	1	1	2	1	....	.....	....	....	....	....	....	....
	Norwich Village....	3	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	North Oxford	4	3	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	North Norwich	2	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	South Norwich	4	6	6	....	....	.....	....	....	.....	....	....	....	....	....	....
	Dereham	5	5	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	West Oxford.....	1	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	East Oxford	2	1	1	....	....	.....	....	....	.....	....	....	....	....	....	....
NORTH OXFORD.	East Nissouri.....	3	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Blandford	3	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	East Zorra	4	4	4	1	2	2	....	....	.....	....	....	....	....	....	....
	Embro Village	2	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	West Zorra.....	2	2	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Woodstock Town ..	11	11	11	4	4	4	2	1	.....	....	....	....	....	....	....
	Blenheim Township	12	9	10	.....	.....	.....	....	....	.....	....	....	....	....	....	....
PEEL.	Brampton Town....	5	5	6	2	2	2	....	....	.....	....	....	....	....	....	....
	Chinguacousy	10	11	12	....	....	.....	....	....	.....	....	....	....	....	....	....
	Toronto Township ..	14	13	13	3	2	2	....	....	.....	....	....	....	....	....	....
	Toronto Gore	4	4	4	1	1	1	....	....	.....	....	....	....	....	....	....
	Streetsville	2	2	2	2	2	1	....	....	.....	....	....	....	....	....	....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
....	....	....	1	1	....	60 00	90 00	.....	31 26	27 88	.....	Dunkin Act in force 1878-9.
....	....	....	3	3	....	200 00	200 00	.....	105 96	92 94	.....	
....	....	....	3	3	....	220 00	180 00	.....	118 16	83 64	.....	
....	....	....	7	8	....	520 00	480 00	.....	279 80	223 08	.....	
....	....	....	19	22	17	2,875 00	2,751 25	2,635 00	1,940 22	1,991 24	1,895 00	See *Note* to East Durham, *ante*.
....	1	1	159	158	143	23690 00	19525 00	17825 00	17,117 37	13,196 02	11,775 00	
....	....	....	6	8	....	580 00	480 00	.....	195 39	219 72	.....	Dunkin Act in force 1878-9.
....	....	....	5	4	....	510 00	400 00	.....	348 93	269 86	.....	
....	....	....	10	8	....	620 00	700 00	.....	360 66	327 17	.....	
....	....	....	7	6	....	440 00	320 00	.....	206 69	137 21	.....	
....	....	....	5	4	....	400 00	360 00	.....	222 08	189 86	.....	
....	....	....	6	6	....	1,030 00	900 00	.....	623 55	704 77	.....	
....	....	....	4	4	....	260 00	240 00	.....	122 68	109 86	.....	
....	....	....	2	2	....	170 00	120 00	.....	77 90	54 93	.....	
....	....	....	....	1	....	20 00	60 00	.....	8 51	27 47	.....	
....	....	....	6	5	....	1,105 00	905 00	.....	751 47	626 65	.....	See *Note* to East Durham, *ante*.
....	....	....	10	10	....	1,470 00	1,385 00	.....	914 39	837 76	.....	Dunkin Act in force 1878-9.
....	....	....	2	2	....	270 00	225 00	.....	158 14	130 67	.....	
....	....	....	3	3	....	180 00	270 00	.....	117 16	76 00	.....	
....	....	....	4	4	....	610 00	480 00	.....	348 85	269 77	.....	
....	....	....	15	14	13	2,445 00	2,390 00	2,050 00	1,576 29	1,800 14	1,532 47	See *Note* to East Durham, *ante*.
....	....	....	6	5	6	645 00	545 00	600 00	321 75	341 84	361 12	
....	....	....	3	3	3	180 00	180 00	180 00	91 52	98 04	90 42	
....	....	....	4	3	4	240 00	200 00	240 00	122 01	106 63	120 56	
....	....	....	2	2	2	140 00	120 00	120 00	65 77	58 44	60 28	
....	....	....	4	6	6	240 00	360 00	360 00	122 01	196 08	180 84	
....	....	....	5	5	4	378 34	430 00	240 00	171 04	221 58	120 56	
....	....	....	1	2	2	60 00	150 00	120 00	30 55	71 32	60 28	
....	....	....	2	1	1	120 00	80 00	60 00	61 04	41 27	30 14	
....	....	....	3	2	2	.....	120 00	140 00	98 19	61 03	68 00	
....	....	....	3	3	3	195 00	195 00	195 00	111 34	106 54	87 43	
....	....	....	5	6	6	400 00	480 00	360 00	251 52	303 07	174 85	
....	....	....	2	2	2	220 00	270 00	230 00	149 08	177 70	58 28	
....	....	....	2	2	2	200 00	120 00	180 00	113 93	61 03	87 43	
....	....	....	17	16	15	2,295 00	1,980 00	1,720 00	1,591 47	1,363 58	1,092 59	
....	....	....	12	9	10	720 00	660 00	600 00	392 75	354 57	291 43	
....	....	....	7	7	8	955 00	955 00	1,000 00	612 96	649 44	691 69	
....	....	....	10	11	12	720 00	705 00	960 00	372 12	368 40	613 14	
....	....	....	17	15	15	1,245 00	985 00	985 00	681 58	555 28	551 43	
....	....	....	5	5	5	300 00	300 00	300 00	162 30	156 75	155 47	
....	....	....	4	4	3	390 00	370 00	240 00	251 42	255 42	93 28	

SCHEDULE C.—Comparative Statement shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.
NORTH PERTH.	Mornington	12	12	14	....	....	1	....	....	.....	....	.....	....	....	....	....
	Ellice	6	5	5	....	....	.....	....	....	.....	....	....	....	....	....	....
	Wallace	4	4	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Elma	6	6	6	....	....	.....	....	....	.....	....	....	....	....	....	....
	Logan	4	4	3	.....	...	.....	....	....	.....	....	....	....	....	....	....
	Listowel	6	7	7	1	1	2	1	....	.....	....	....	....	....	....	....
	Stratford	17	19	19	5	9	7	2	....	.....	....	....	....	....	....	....
	North Easthope	5	5	4	....	....	.....	....	....	.....	....	....	....	....	....	....
SOUTH PERTH.	South Easthope	6	6	6	1	1	1	....	....	.....	....	....	....	....	....	....
	Fullarton	3	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	Mitchell Town	6	7	7	2	2	2	....	....	.....	....	....	....	....	....	....
	Hibbert	6	6	6	2	1	1	....	....	.....	....	....	....	....	....	....
	Downie	6	6	6	....	....	.....	....	....	.....	....	....	....	....	....	....
	St. Mary's Town	9	10	10	2	2	3	....	....	.....	....	....	....	....	....	....
	Blanchard	5	6	5	.....	....	.....	....	....	.....	....	.....	....	....	....	....
WEST PETERBOROUGH.	Smith	4	3	.....	....	....	.....	.....	....	.....	....	....	....	....	....	....
	Lakefield	3	4	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Peterborough, Town.	15	15	.....	8	7	.....	....	....	.....	....	....	....	....	....	....
	North Monaghan	1	1	.....	..	....	.....	....	....	.....	....	....	....	....	....	....
	Ennismore	....	1	.....	....	1	.....	....	....	.....	....	....	....	....	....	....
EAST PETERBOROUGH.	Ashburnham	2	2	.....	2	2	3	2	....	.....	....	....	....	....	....	....
	Asphodel	4	4	1	1	1	.....	....	....	.....	....	....	....	....	....	....
	Dummer	2	2	1	....	....	.....	....	....	.....	....	....	....	....	....	....
	Otonabee	5	4	4	....	....	...	....	....	.....	....	....	....	....	....	....
	Burleigh	3	3	2	.....	....	.....	....	....	.....	....	....	....	....	....	....
	Norwood Village	....	....	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	Belmont	..	1	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Douro	1	2	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
PRESCOTT.	South Plantagenet	3	3	1	....	1	1	....	....	.....	....	....	....	....	....	....
	East Hawkesbury	7	5	6	....	....	.....	....	....	.....	....	....	....	....	....	....
	Longueuil	2	1	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	North Plantagenet	7	5	4	....	2	2	....	....	.....	....	....	....	....	....	....
	Caledonia	3	2	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	Alfred	2	2	2	....	....	.....	....	....	.....	.....	....	....	....	....	....
	West Hawkesbury	5	5	5	....	1	1	....	....	.....	....	....	....	....	....	....
	Hawkesbury Village.	3	3	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	L'Orignal	3	3	3	....	1	1	....	....	.....	....	....	....	....	....	....
PRINCE EDWARD.	Prince Edward Co.	....	....	.....	....	....	.. ..	1	....	.....	....	....	....	....	....	....
SOUTH RENFREW.	McNab	4	4	2	....	....	.....	....	....	.....	....	....	....	....	....	....
	Admaston	1	1	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Renfrew Village	6	4	5	3	3	2	....	....	.....	....	....	....	....	....	....
	Grattan	5	2	1	2	2	2	....	....	.....	....	1	....	.....	....	....
	Bagot and Blithefield	2	1	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Brougham	2	1	.....	1	....	.....	....	....	.....	....	....	....	....	....	....
	Horton	1	1	.....	.....	....	.....	....	....	.....	....	....	....	....	....	....
	Brudenell	3	....	1	2	2	.....	....	....	.....	....	....	....	....	.....	....
	Arnprior	6	6	5	3	2	2	....	....	.....	....	....	....	....	....	....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
....	....	.....	12	12	15	760 00	810 00	900 00	428 78	471 78	489 97	
....	....	.....	6	5	5	450 00	300 00	300 00	256 41	172 34	163 20	
....	....	.....	4	4	2	260 00	240 00	120 00	146 93	137 90	65 32	
....	....	.....	6	6	6	380 00	380 00	360 00	213 63	220 16	195 97	
....	....	.....	4	4	3	260 00	240 00	180 00	146 17	137 90	98 00	
....	....	.....	8	8	9	864 00	900 00	1,100 00	566 49	627 79	771 93	
....	....	.....	24	27	26	4,635 00	3,653 08	3,250 00	3494 62	2654 73	2301 65	
....	....	.....	5	5	4	300 00	300 00	240 00	168 66	172 34	130 64	
....	....	.....	7	7	7	465 00	455 00	455 00	240 67	267 29	262 09	
....	....	.....	3	3	3	220 00	180 00	180 00	112 30	99 54	97 33	
....	....	.....	8	9	9	800 00	1,010 00	950 00	402 93	668 29	619 31	
....	....	.....	8	7	7	540 00	440 00	420 00	277 91	245 62	227 09	
....	....	.....	6	6	6	540 00	420 00	360 00	316 15	236 83	194 65	
....	....	.....	11	12	13	1,350 00	1,260 00	1,850 00	753 79	810 93	1372 31	
....	....	.....	5	6	5	350 00	420 00	300 00	179 57	236 83	162 22	
....	....	.....	4	3	.....	290 00	202 66	.....	158 79	107 18	.....	Dunkin Act in force during part of 1878-9.
....	....	.....	3	4	.....	180 00	300 00	.....	105 28	182 76	.....	
....	....	.....	23	22	.....	4,720 00	3,360 00	.....	3654 50	2470 70	.....	
....	....	.....	1	1	.....	60 00	100 00	.....	35 10	50 84	.....	
....	....	.....	....	2	.....	45 00	130 00	.....	16 54	66 41	.....	
....	....	....	6	4	3	320 00	290 00	180 00	117 71	133 63	62 83	
....	....	.....	5	5	1	300 00	320 00	60 00	80 48	126 20	20 96	
....	....	.....	2	2	1	140 00	120 00	60 00	45 53	45 15	20 96	
....	....	.....	5	4	4	320 00	240 00	240 00	93 75	90 30	83 83	
....	....	.....	3	3	2	200 00	180 00	120 00	61 63	67 73	41 93	
....	....	.....	....	....	3	.....	.....	180 00	.....	.....	62 83	
....	....	.....	....	1	.....	20 00	60 00	.....	13 33	22 58	.....	
....	....	.....	1	2	.....	60 00	140 00	.....	16 03	58 38	.....	
....	....	.....	3	4	2	180 00	240 00	120 00	95 18	121 63	59 80	
....	....	.....	7	5	6	420 00	300 00	360 00	219 81	152 00	179 40	
....	....	.....	2	1	2	120 00	60 00	120 00	63 45	30 41	59 80	
....	....	.....	7	7	6	420 00	420 00	360 00	222 11	301 95	179 40	
....	....	.....	3	2	3	180 00	120 00	180 00	95 18	60 81	89 67	
....	....	.....	2	2	2	120 00	120 00	120 00	63 45	60 81	59 80	
....	....	.....	5	6	6	500 00	600 00	540 00	331 07	422 40	359 40	
....	....	.....	3	3	2	300 00	300 00	200 00	198 65	211 20	139 80	
....	....	.....	3	4	4	300 00	450 00	480 00	198 65	331 63	359 60	
....	....	.....	1	....	.....	.....	160 00	.....	.....	.....	.....	Dunkin Act in force.
....	....	.....	4	4	2	240 00	260 00	120 00	141 52	133 63	46 00	
....	....	.....	1	1	.....	60 00	60 00	.....	28 73	30 23	.....	
....	....	.....	9	7	7	540 00	920 00	525 00	258 47	713 04	161 00	
....	....	.....	7	5	3	420 00	255 00	180 00	209 49	128 02	69 00	
....	....	.....	2	1	.....	120 00	60 00	.....	57 45	30 23	.....	
....	....	.....	3	1	.....	180 00	60 00	.....	86 16	30 23	.....	
....	....	.....	1	1	.....	60 00	60 00	.....	28 73	30 23	.....	
....	....	.....	5	2	1	300 00	120 00	60 00	143 59	61 79	23 00	
....	....	.....	9	8	7	620 00	540 00	420 00	308 04	277 38	161 00	

SCHEDULE C.—Comparative Statement, shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.
NORTH RENFREW.	Stafford	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Bromley	3	2	.....	1	2	1	....	....	.....	....	....	....	....	....	....
	Pembroke Town	9	9	8	7	5	6	....	....	.....	....	....	....	....	....	....
	Pembroke Township	1	....	.....	1	....	.....	....	....	.....	....	....	....	....	....	....
	Petawawa	1	1	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Ross	1	2	1	....	1	1	....	....	.....	....	....	....	....	....	....
	Westmeath	6	6	5	....	....	1	....	....	.....	....	....	....	....	....	....
	Wilberforce	2	2	2	....	1	.....	....	....	.....	....	....	....	....	....	....
	Rolph, Buchanan, and Wylie	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
RUSSELL.	Cambridge	1	1	1	....	....	.....	....	....	.....	....	....	....	....	....	....
	Russell	5	5	5	....	....	.....	....	....	.....	....	....	....	....	....	....
	Clarence	4	5	6	....	....	.....	....	....	.....	....	....	....	....	....	....
	Gloucester	13	13	13	....	....	.....	....	....	.....	....	....	....	....	....	....
	New Edinburgh	1	1	.....	....	....	.....	....	....	.....	....	....	....	....	....	....
	Cumberland	7	6	6	....	....	.....	....	....	.....	....	....	....	....	....	....
	Osgoode	....	3	4	....	....	.....	....	....	.....	....	....	....	....	....	....
EAST SIMCOE.	Tiny	2	2	2	....	1	1	....	....	.....	....	....	....	....	....	....
	Orillia & Matchedash	5	4	3	1	1	1	....	....	.....	....	....	....	....	....	....
	Oro	5	5	5	....	....	.....	....	....	.....	....	1	....	....	....	....
	Tay	5	6	7	....	1	1	....	....	.....	....	....	....	....	....	....
	Medonte	10	7	8	1	1	1	....	....	.....	....	....	....	....	....	....
	Penetanguishene	3	3	3	1	1	1	....	....	.....	....	1	....	....	....	....
	Orillia Town	5	7	6	....	....	.....	....	1	1	....	....	....	....	....	....
SOUTH SIMCOE.	Essa	8	7	7	....	....	.....	....	....	.....	....	....	....	....	....	....
	Innisfil	11	9	9	....	....	.....	....	....	.....	....	1	....	....	....	....
	West Gwillimbury	6	5	3	1	1	1	....	....	.....	....	....	....	....	....	....
	Tosorontio	2	3	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Alliston	3	3	3	2	2	2	....	....	.....	....	....	....	....	....	....
	Bradford	4	4	4	2	2	1	....	....	.....	....	....	....	....	....	1
WEST SIMCOE.	Barrie Town	10	12	12	3	3	3	2	....	.....	....	....	....	....	2	....
	Nottawasaga	12	13	14	2	2	2	....	....	.....	....	....	....	....	....	....
	Stayner	4	4	4	2	2	2	....	....	.....	....	....	....	....	....	....
	Collingwood Town	8	8	8	2	2	.....	....	....	.....	....	....	....	....	....	2
	Vespra	4	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
	Sunnidale	4	3	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Flos	3	3	3	....	....	.....	....	....	.....	....	....	....	....	....	....
STORMONT.	Osnabruck	8	8	10	....	....	.....	....	....	.....	....	....	....	....	....	....
	Finch	3	3	4	....	....	.....	....	....	.....	....	....	....	....	....	....
	Roxborough	....	....	.....	....	....	.....	....	....	.....	....	....	....	....	....	....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7	1877-8	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
....	....	.....	.....	.....	.....	.....	.....	.....	30 00	.....	.....	
....	....	.....	4	4	1	305 00	240 00	80 00	170 96	127 28	39 84	
....	....	.....	16	14	14	1,520 00	1,700 00	1,580 00	1006 53	1135 45	1017 99	
....	....	.....	2	.....	.....	60 00	.....	.....	32 54	.....	.....	
....	....	.....	1	1	.....	80 00	80 00	.....	45 88	39 84	.....	
....	....	.....	1	3	2	180 00	180 00	140 00	102 57	96 20	69 76	
....	....	.....	6	6	6	360 00	420 00	360 00	195 17	215 71	179 31	
....	....	.....	2	3	2	140 00	180 00	120 00	75 91	96 20	59 78	
....	....	.....	.....	.....	.....	.....	20 00	.....	.....	7 78	.....	
....	....	.....	1	1	1	60 00	60 00	60 00	23 71	31 54	27 05	
....	....	.....	5	5	5	320 00	300 00	300 00	131 98	147 79	135 25	
....	....	.....	4	5	6	240 00	400 00	260 00	98 11	200 84	117 23	
....	....	.....	13	13	13	900 00	940 00	788 00	388 50	479 11	355 28	
....	....	.....	1	1	.....	60 00	60 00	.....	23 71	31 54	.....	
....	....	.....	7	6	6	440 00	400 00	360 00	179 45	206 63	162 31	
....	....	.....	....	3	4	40 00	280 00	240 00	26 67	66 72	108 21	
....	....	.....	2	3	3	168 00	180 00	180 00	87 86	92 65	92 40	
....	....	.....	6	5	4	360 00	300 00	240 00	175 06	154 41	123 20	
....	....	.....	5	6	5	320 00	315 00	300 00	158 18	162 13	154 00	
....	....	.....	5	7	8	300 00	420 00	480 00	145 90	216 18	246 40	
....	....	.....	10	8	9	742 15	485 00	540 00	371 43	247 07	277 20	
....	....	.....	4	5	4	300 00	375 69	350 00	165 88	246 75	233 20	
....	....	.....	5	8	7	794 35	1,240 00	1,050 00	508 61	855 45	743 60	
....	....	.....	8	7	7	540 00	480 00	420 00	219 21	249 87	203 70	
....	....	.....	11	10	9	680 00	555 00	540 00	281 11	275 93	261 90	
....	....	.....	7	6	4	485 00	380 00	240 00	189 35	192 13	116 40	
....	....	.....	2	3	4	120 00	180 00	240 00	49 96	88 79	116 40	
....	....	.....	5	5	5	460 00	405 00	450 00	236 20	243 33	295 50	
....	....	.....	6	6	6	540 00	520 00	445 00	254 97	340 00	282 77	
....	....	.....	17	17	15	2,250 00	2,315 00	1,950 00	1621 48	1789 78	1423 74	
....	....	.....	14	15	16	840 00	900 00	960 00	440 81	528 13	538 98	
....	....	.....	6	6	4	520 00	520 00	520 00	313 30	371 27	362 15	
....	....	.....	10	10	12	1 200 00	1,200 00	1,020 00	811 43	869 46	721 78	
....	....	.....	4	3	3	245 00	180 00	180 00	138 46	105 71	101 05	
....	....	.....	4	3	4	340 00	180 00	240 00	207 50	105 71	134 60	
....	....	.....	3	3	3	200 00	180 00	180 00	101 73	105 71	101 05	
....	....	.....	8	8	10	680 00	500 00	600 00	249 80	167 09	193 19	
....	....	.....	3	3	4	240 00	200 00	251 00	78 85	50 77	80 82	
....	....	.....	.....	.....	.....	40 00	106 44	.....	.....	12 85	.....	Dunkin Act in force.

SCHEDULE C.—Comparative Statement, shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	1st May to 31st Dec. 1878-9.	1876-7.	1877-8.	1st May to 31st Dec. 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.
TORONTO.	Toronto City	215	182	180	100	100	92	39	26	20	....	15	3	....	4	....
THUNDER BAY.	Shuniah	11	11	11	4	2	2	....	....	....	....	....	....	....	....	....
	Unorganized Tract	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....
VICTORIA AND HALIBURTON.	Lindsay	11	....	....	2	....	....	1	....	....	....	....	....	....	....	....
	Eldon	10	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Mariposa	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Fenelon Falls	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Emily	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Omemee Village	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Fenelon Township	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Bexley	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Verulam	4	....	....	1	....	....	....	....	....	....	....	....	....	....	....
	Haliburton	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....
	Laxton and Digby	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....
	Somerville	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Anson and Minden	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Stanhope	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Bobcaygeon	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Dysart	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
NORTH VICTORIA AND HALIBURTON.	Eldon	....	11	8	....	1	1	....	....	....	....	....	....	....	....	....
	Fenelon	....	5	6	....	....	....	....	....	....	....	....	....	....	....	....
	Fenelon Falls	....	3	2	....	....	....	....	....	....	....	....	....	....	....	....
	Bexley	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....
	Laxton	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....
	Digby	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....
	Somerville	....	3	3	....	....	....	....	....	....	....	....	....	....	....	....
	Anson	}	....	{ 1	....	....	....	....	....	....	....	....	....	....	....	....
	Minden	}	3	{ 1	....	....	....	....	....	....	....	....	....	....	....	....
	Snowdon	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Dysart	....	1	2	....	1	1	....	....	....	....	....	....	....	....	....
	Stanhope	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Haliburton Village	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
SOUTH VICTORIA.	Lindsay Town	....	11	11	....	2	2	....	....	....	....	....	....	....	....	....
	Mariposa	....	6	5	....	....	....	....	....	....	....	....	....	....	....	....
	Emily	....	2	2	....	....	....	....	....	....	....	....	....	....	....	....
	Bobcaygeon	....	3	3	....	....	....	....	....	....	....	....	....	....	1	....
	Omemee Village	....	4	4	....	1	1	....	....	....	....	....	....	....	....	....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
....	....	.....	354	327	295	69757 00	51072 50	44912 50	52,256 22	31,077 72	29,154 17	
....	....	.....	15	13	13	2,200 00	2,307 00	1,950 00	1,756 53	2,656 77	1,436 22	
....	....	.....	....	1	1	120 00	60 00	60 00	.....	.....	.....	
....	....	.....	14	....	.....	2,250 00	.....	.....	1,471 73	.....	.....	For 1877-8 and 1878-9, see two next succeeding Districts.
....	....	.....	10	....	.....	620 00	.....	.....	313 61	.....	.....	
....	....	.....	6	....	.....	360 00	.....	.....	183 46	.....	.....	
....	....	.....	4	....	.....	280 00	.....	.....	156 03	.....	.....	
....	....	.....	2	....	.....	200 00	.....	.....	94 29	.....	.....	
....	....	.....	3	....	.....	550 00	.....	.....	374 40	.....	.....	
....	....	.....	6	....	.....	415 00	.....	.....	204 49	.....	.....	
....	....	.....	2	....	.....	190 00	.....	.....	87 92	.....	.....	
....	....	.....	5	....	.....	318 00	.....	.....	159 77	.....	.....	
....	....	.....	2	....	.....	120 00	.....	.....	61 16	.....	.....	
....	....	.....	2	....	.....	60 00	.....	.....	30 58	.....	.....	
....	....	.....	3	....	.....	240 00	.....	.....	142 31	.....	.....	
....	....	.....	2	....	.....	120 00	.....	.....	61 16	.....	.....	
....	....	..	....	....	.....	.....	.....	.....	.....	.....	.....	Dunkin Act in force.
....	....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	
....	....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	
....	....	.....	....	12	9	.....	790 00	540 00	.....	330 79	170 54	Figures for 1876-7 under Victoria & Haliburton, *ante*.
....	....	.....	....	5	6	.....	340 00	360 00	.....	130 13	140 83	
....	....	.....	....	3	2	.....	300 00	200 00	.....	139 74	126 94	
....	....	.....	....	1	1	.....	60 00	60 00	.....	25 20	18 95	
....	....	.....	....	2	.....	.....	60 00	.....	.....	55 05	.....	
....	....	.....	....	1	1	.....	60 00	60 00	.....	25 20	18 95	
....	....	.....	....	3	3	.....	120 00	180 00	.....	75 33	56 85	
....	....	.....	....	3	1	.....	180 00	60 00	.....	75 34	18 95	
....	....	.....	....		1	.....		60 00	.....		18 95	
....	....	.....	....	.....	.....	.....	80 00	.....	.....	.....	.....	
....	....	.....	....	2	3	.....	120 00	180 00	.....	50 23	56 85	
....	....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	
....	....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	
....	....	.....	....	13	13	.....	2,140 00	2,080 00	.....	1,502 66	1,385 38	Figures for 1876-7 under Victoria & Haliburton, *ante*.
....	....	.....	....	6	5	.....	360 00	300 00	.....	156 16	117 35	
....	....	.....	....	2	2	.....	120 00	120 00	.....	52 04	46 94	
....	....	.....	....	4	3	.....	277 50	240 00	.....	167 09	130 42	
....	....	.....	....	5	5	.....	660 00	660 00	.....	490 13	477 36	

SCHEDUDE C.—Comparative Statement shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.
NORTH WATERLOO	North Waterloo	6	6	6	....	....	....	....	....	....	....	....	....	....	....	....
	Woolwich	11	11	11	1	1	1	....	....	....	....	....	....	....	....	....
	Wellesley	14	13	13	2	....	1	....	....	....	....	1	....	....	....	....
	Berlin	8	7	8	7	6	6	3	....	....	....	....	....	....	....	....
	Waterloo Town	5	6	5	2	2	2	2	....	....	....	....	1	....	....	....
SOUTH WATERLOO	Galt Town	8	8	8	3	3	3	....	....	....	....	1	....	....	....	....
	Preston Village	5	5	5	....	1	1	2	....	....	....	....	....	....	....	....
	Wilmot	12	12	14	2	2	1	1	....	....	....	....	....	....	....	....
	Waterloo Township	5	5	5	....	....	....	....	....	....	....	....	....	....	....	....
	Hespeler	3	3	3	....	....	....	....	....	....	....	....	....	....	....	....
	North Dumfries	5	4	4	....	....	....	1	....	....	....	....	....	....	....	....
	New Hamburg	4	4	4	2	2	2	1	....	....	....	....	....	....	....	....
WELLAND.	Clifton Town	10	10	10	6	5	5	....	....	....	....	....	....	....	....	....
	Crowland	2	2	2	....	....	....	....	....	....	....	....	....	....	....	....
	Chippawa	3	3	4	2	2	2	....	....	....	....	....	....	....	....	....
	Fort Erie	3	3	3	....	....	....	....	....	....	....	....	....	....	....	....
	Port Colborne	5	5	7	2	2	2	....	....	....	....	1	....	....	....	....
	Humberstone	9	10	11	....	1	2	....	....	....	....	....	....	....	....	....
	Stamford	8	9	8	1	1	1	....	....	....	....	....	....	....	....	....
	Thorold Township	5	7	9	....	1	2	....	....	....	....	....	....	....	....	....
	Thorold Town	9	9	9	2	2	2	....	....	....	....	1	....	....	....	....
	Welland Village	6	6	8	5	4	4	....	....	....	....	2	1	....	1	....
	Willoughby	2	3	3	....	....	....	....	....	....	....	....	....	....	....	....
	Bertie	6	10	11	1	1	1	....	....	....	....	....	....	....	....	....
WEST WELLINGTON.	Mount Forest	5	5	6	4	4	5	....	....	....	....	....	....	....	....	....
	Clifford Village	3	3	3	1	....	2	....	....	....	....	....	....	....	....	....
	Arthur Village	4	4	5	1	2	1	....	....	....	....	1	....	....	....	....
	Harriston	4	4	4	2	2	2	....	....	....	....	....	....	....	....	....
	Drayton	3	3	3	....	....	....	....	....	....	....	....	....	....	....	....
	Palmerston Town	5	5	5	1	1	1	....	....	....	....	....	....	....	....	....
	Arthur Township	2	3	3	....	....	....	....	....	....	....	....	....	....	....	....
	Maryborough	8	7	8	....	....	....	....	....	....	....	....	....	....	....	....
	Minto	1	1	1	....	....	....	....	....	....	....	....	....	....	....	....
	Peel	11	9	8	....	....	....	....	....	....	....	....	....	....	....	....
CENTRE WELLINGTON.	Pilkington	2	2	2	1	....	....	....	....	....	....	....	....	....	....	....
	Elora Village	5	5	5	2	2	2	....	....	....	....	....	....	....	....	....
	Nichol	7	5	6	....	....	....	2	2	....	....	2	....	....	....	....
	Fergus	5	6	6	5	5	4	1	1	....	....	....	....	....	....	....
	Luther	3	3	3	....	....	....	....	....	....	....	....	....	....	....	....
	West Garafraxa	5	5	4	....	....	....	....	....	....	....	....	....	....	....	....
	Erin	8	9	8	....	....	....	....	....	....	....	....	....	....	....	....
SOUTH WELLINGTON.	Eramosa	11	9	9	....	....	....	....	....	....	....	....	....	....	....	....
	Guelph Township	4	4	4	....	....	....	....	1	....	....	....	....	....	....	....
	Puslinch	7	4	5	....	....	....	....	....	....	....	....	....	....	....	....
	Guelph Town	18	18	18	9	9	9	....	....	....	....	....	....	....	....	....

Licenses issued in the various Municipalities, &c.—*Continued.*

Six Months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877 8.	1st May to 31st Dec., 1878 9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
....	....	.....	6	6	6	360 00	440 00	360 00	241 75	257 13	193 17	
....	....	.....	12	12	12	900 00	860 00	720 00	523 49	502 82	386 37	
.....	....	.....	16	14	14	1,020 00	885 00	840 00	575 85	507 64	450 77	
....	....	.....	18	13	14	1,360 00	1,740 00	1,300 00	815 47	1294 25	771 77	
....	....	.....	9	8	8	820 00	925 00	790 00	526 19	636 68	521 24	
....	....	.....	11	11	11	1,350 00	1,370 00	1,350 00	869 81	1009 88	896 51	
....	....	.....	7	6	6	320 00	500 00	500 00	167 99	343 38	323 04	
....	....	.....	15	14	15	880 00	910 00	1,030 00	462 77	518 42	523 64	
....	....	.....	5	5	5	340 00	300 00	300 00	181 32	185 43	152 50	
....	....	.....	3	3	3	180 00	180 00	180 00	95 11	103 30	91 52	
....	....	.....	6	4	4	300 00	320 00	340 00	158 47	220 83	212 15	
....	....	.....	7	7	6	360 00	360 00	360 00	190 22	206 58	183 04	
....	1	1	16	16	16	1,410 00	1.240 00	1,240 00	678 79	680 56	690 42	
....	....	.....	2	2	2	120 00	120 00	120 00	62 90	68 86	66 81	
....	....	.....	5	5	6	320 00	340 00	360 00	158 46	186 62	200 44	
....	1	.....	3	4	3	305 00	310 00	240 00	185 60	206 24	160 00	
....	1	1	7	9	10	680 00	945 00	940 00	319 46	654 02	687 36	
....	....	.....	9	11	13	560 00	760 00	780 00	284 28	417 15	434 29	
....	....	.....	9	10	9	560 00	600 00	540 00	284 28	329 31	177 78	
...	....	.....	5	8	11	300 00	480 00	660 00	157 26	263 47	367 48	
....	1	1	11	13	12	1,731 15	2,050 60	1,240 00	1014 82	1438 56	823 24	
....	....	.....	11	13	13	1,040 00	1,043 25	1,225 00	544 22	676 63	790 65	
....	....	.....	2	3	3	140 00	180 00	180 00	64 10	98 80	100 22	
....	....	1	7	11	13	875 00	1,000 00	1,100 00	510 64	684 20	767 58	
....	. .	.....	9	9	11	1,175 00	1,145 00	1,375 00	846 55	890 79	1061 80	
....	....	.....	4	3	5	315 00	245 00	425 00	198 14	154 23	282 62	
.....	....	..	5	7	6	500 00	845 00	600 00	341 43	593 05	429 16	
....	....	.....	6	6	6	600 00	600 00	600 00	409 72	436 58	429 16	
.....	....	.....	3	3	3	210 00	230 00	210 00	125 38	139 24	124 57	
....	....	.....	6	6	6	725 00	770 00	600 00	475 73	543 00	372 21	
.....	....	.....	2	3	3	160 00	180 00	180 00	92 60	98 31	94 57	
....	....	.....	8	7	8	505 00	482 00	480 00	280 30	263 19	252 21	
....	....	.....	1	1	1	60 00	60 00	60 00	32 97	32 77	31 53	
....	....	.....	11	9	8	680 00	600 00	480 00	376 01	327 63	252 21	
....	....	.. ...	3	2	2	180 00	140 00	120 00	90 66	70 27	53 33	
....	....	.....	7	7	7	685 00	580 00	560 00	369 37	363 09	362 67	
....	....	.....	9	9	6	730 00	405 00	360 00	312 44	202 43	160 00	
.....	....	...	11	12	10	850 00	820 00	720 00	441 82	474 54	386 66	
....	....	.....	3	3	3	180 00	180 00	180 00	90 66	91 71	80 00	
....	....	.....	5	5	4	358 00	300 00	240 00	169 98	152 80	106 67	
....	....	.....	8	9	8	560 00	600 00	480 00	266 04	302 55	213 34	
....	....	.....	11	9	9	705 00	560 00	540 00	425 37	313 31	293 33	
.....	....	.....	4	5	4	260 00	240 00	240 00	170 56	133 27	130 38	
....	.....	.....	7	4	5	635 00	280 00	300 00	440 40	159 94	162 96	
.....	.....	.....	27	27	27	5,000 00	4,180 00	4,140 00	3917 18	3206 50	3153 33	

SCHEDULE C.—Comparative Statement shewing the number of

License District.	MUNICIPALITY.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.		
		1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.
NORTH WENTWORTH.	Dundas Town	9	9	8	7	6	4	2								
	Beverly	8	7	5												
	West Flamborough	9	9	6	2	2							1			
	East Flamborough	11	10	5								1				
SOUTH WENTWORTH.	Binbrook	3	2	2												
	Ancaster	3	3	3	2	2	2									
	Saltfleet	7	6	8												
	Barton	6	6	7												
	Glanford	5	4	3												
EAST YORK.	Scarborough	4	4													
	Markham Township	9	7		1	1						1				
	York, E. of Yonge st.	9	10		1	1										
	Markham Village	2	2													
	Yorkville Village	5	5		1	1										
WEST YORK.	York, W. of Yonge st.	12	13		1	1						1				
	Vaughan	13	12		2	2										
	Etobicoke	5	4		2	1						1			1	
	Richmond Hill	3	3													
NORTH YORK.	Aurora Village	4	3		1	1										
	Holland Landing	2	2		2	2										
	North Gwillimbury	4	3													
	King	13	7									6				
	East Gwillimbury	5	5													
	Whitchurch	8	5		1											
	Newmarket	5	5		3	4		1								
	Georgina	5	4		1	1										
	Stouffville		3									1				

Licenses issued in the various Municipalities, &c.—*Concluded.*

Six months.			Total.			Amounts received for Licenses issued in each Municipality.			Amounts paid to Municipalities.			Remarks.
1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	1876-7.	1877-8.	1st May to 31st Dec., 1878-9.	
						$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
....	....	....	18	15	12	2,070 00	1,860 00	1,440 00	1318 26	1284 21	836 97	
....	....	.....	8	7	5	500 00	440 00	360 00	269 51	222 92	133 85	
....	....	.....	11	11	7	680 00	680 00	395 00	362 77	351 86	146 87	
....	1	.....	11	12	5	690 00	695 00	320 00	372 20	355 78	118 99	
....	....	.....	3	2	2	180 00	120 00	120 00	58 35	41 81	44 80	
....	....	.....	5	5	5	340 00	340 00	320 00	118 69	135 98	132 00	
....	....	.....	7	6	8	570 00	520 00	480 00	194 64	217 00	179 20	
....	....	.....	6	6	7	545 00	480 00	420 00	193 34	194 13	156 80	
....	....	.....	5	4	3	340 00	280 00	180 00	113 82	106 52	67 20	
....	....	.....	4	4	.....	300 00	500 00	.....	133 33	367 95	.....	Dunkin Act in force, 1878-9. See *Note* to East Durham, *ante*.
....	....	.....	10	9	.....	700 00	285 00	.....	319 95	113 98	.....	
....	....	.....	10	11	.....	860 00	1,010 00	.....	375 98	328 36	.....	
....	....	.....	2	2	.....	220 00	495 00	.....	118 66	222 65	.....	
....	....	.....	6	6	.....	980 00	955 00	.....	617 95	687 91	.....	
....	....	.....	13	15	.....	1,100 00	955 00	.....	353 33	468 32	.....	Dunkin Act n force, 1878-9.
....	....	.....	15	14	.....	960 00	1,110 00	.....	407 64	540 60	.....	
....	....	.....	7	7	.....	480 00	430 00	.....	190 24	209 41	.....	
....	....	.....	3	3	.....	180 00	300 00	.....	81 54	207 83	.....	
....	....	.....	5	4	.....	445 00	340 00	.....	284 24	219 87	.....	Dunkin Act in force, 1878 9. See *Note* to East Durham, *ante*.
....	....	.....	4	4	.....	240 00	280 00	.....	129 48	119 87	.....	
....	....	.....	4	3	.....	240 00	180 00	.....	129 48	89 90	.....	
....	....	.....	13	13	.....	1,015 00	1,090 00	.....	617 61	604 69	.....	
....	....	.....	5	5	.....	300 00	450 00	.....	188 52	149 81	.....	
.....	....	.....	9	5	.....	560 00	300 00	.....	304 62	149 83	.....	
....	....	.....	9	9	.....	833 00	1,025 00	.....	545 35	604 69	.....	
....	....	.....	6	5	.....	380 00	300 00	.....	207 54	149 80	.....	
...	....	.....	....	4	.....	.....	260 00	.....	.....	162 39	.....	

SCHEDULE D.

COMPARATIVE STATEMENT shewing licenses issued in each License District in the year 1876-7, the amount of fees as fixed by the Statute that would have been paid to municipalities therefor had municipalities issued the licenses as formerly, and the amount that was actually paid to them therefor by the several Boards of Commissioners.

LICENSE DISTRICT.	Number of each kind of license issued, 1876-7.			Amount of money that would have been paid to municipalities under Act of 1874-5, not including excess of Statutory Fees.	Amount that was paid to municipalities after deducting expenses in 1876-7, not including excess of Statutory Fees.
	City Tavern and Shop.	Town Tavern and Shop.	Township Tavern and Shop.		
				$ cts.	$ cts.
Algoma			9	135 00	112 51
Addington			33	495 00	857 84
Brant, North		11	12	565 00	732 03
Brant, South		32	15	1,345 00	2,071 54
Brockville and South Leeds		21	37	1,290 00	2,080 92
Bruce, North			33	495 00	871 22
Bruce, South		19	49	1,400 00	2,349 43
Cardwell			32	480 00	725 02
Cornwall		12	17	675 00	1,104 74
Carleton			31	465 00	772 05
Dufferin		9	25	690 00	958 75
Dundas			28	420 00	706 60
Durham, East		20	22	1,030 00	1,545 42
Durham, West		7	16	485 00	517 05
Elgin		20	62	1,630 00	2,930 09
Essex, North		27	27	1,250 00	2,073 47
Essex, South		9	13	510 00	617 26
Frontenac			14	210 00	114 02
Glengarry			36	540 00	1,011 30
Grey, East			26	390 00	566 09
Grey, North		16	12	740 00	627 19
Grey, South		5	23	520 00	821 47
Halton		10	31	815 00	1,152 05
Haldimand			39	585 00	1,047 49
Hamilton	129			7,740 00	8,266 03
Hastings, North			24	360 00	602 44
Hastings, East			26	390 00	554 26
Hastings, West		26	11	1,075 00	1,702 56
Huron, East			32	480 00	696 58
Huron, South		8	40	880 00	1,428 44
Huron, West		22	27	1,175 00	1,618 97
Kent, East		5	43	820 00	1,573 12
Kent, West		21	10	885 00	877 41
Kingston	76			4,560 00	4,589 39
Lambton, East			33	495 00	939 30
Lambton, West		26	34	1,420 00	2,340 79
Lanark, North			18	270 00	225 78
Lanark, South		11	12	565 00	510 75
Leeds and Grenville, North, and South Grenville		13	31	920 00	1,295 26
Lennox		9	7	420 00	242 49
Lincoln	51	9	34	3,385 00	4,117 58
London	91			4,550 00	5,168 10
Middlesex, East			69	1,035 00	2,222 56
Middlesex, North			40	600 00	1,131 28
Middlesex, West		15	24	885 00	1,346 17
Monck			21	315 00	487 73
Muskoka and Parry Sound			19	285 00	330 38
Norfolk			55	825 00	1,707 21
Northumberland, East			33	495 00	820 16
Northumberland, West		17	14	805 00	954 11
Ottawa	152			9,120 00	9,457 04
Oxford, South		19	21	980 00	1,211 16

SCHEDULE D.

COMPARATIVE STATEMENT showing licenses issued in each License District in the year 1876-7.—*Continued.*

LICENSE DISTRICT.	Number of each kind of license issued, 1876-7.			Amount of money that would have been paid to municipalities under Act of 1874-5, not including excess of Statutory Fees.	Amount that was paid to municipalities after deducting expenses in 1876-7, not including excess of Statutory Fees.
	City Tavern and Shop.	Town Tavern and Shop.	Township Tavern and Shop.		
				$ cts.	$ cts.
Oxford, North		15	27	930 00	1,391 63
Ontario, North			45	675 00	1,092 87
Ontario, South		10	15	575 00	677 02
Peel		7	36	785 00	1,402 41
Perth, North		29	37	1,570 00	2,242 52
Perth, South		19	29	1,100 00	1,607 52
Peterborough, West		23	8	925 00	1,131 18
Peterborough, East			20	300 00	391 81
Prescott			35	525 00	1,047 55
Prince Edward		Dunkin	Act	in force.	
Renfrew, South			39	585 00	1,162 22
Renfrew, North			32	480 00	966 21
Russell			31	465 00	732 13
Simcoe, East		5	33	670 00	1,084 40
Simcoe, South			39	585 00	911 51
Simcoe, West		25	31	1,340 00	1,941 38
Stormont			11	165 00	130 32
Toronto	315			18,900 00	19,709 36
Thunder Bay			15	225 00	419 86
Victoria and Haliburton		13	47	1,160 00	1,752 92
Waterloo, North		22	34	1,280 00	2,082 76
Waterloo, South		11	38	735 00	1,589 63
Welland		27	60	1,845 00	2,821 62
Wellington, West		6	49	945 00	1,720 59
Wellington, Centre			43	645 00	1,251 99
Wellington, South		27	22	1,275 00	1,891 86
Wentworth, North		16	30	1,020 00	1,636 08
Wentworth, South			26	280 00	485 09
York, East			32	480 00	879 65
York, West			38	570 00	1,032 75
York, North			54	810 00	1,670 18
		Totals		104,740 00	139,568 93

SCHEDULE E.

COMPARATIVE STATEMENT of amount of Fines collected in each License District; also the amount paid on account of Expenses of Commissioners and Salaries of Inspectors, for the license years of 1876-7 and 1877-8, respectively.

LICENSE DISTRICT.	FINES.		Paid on account of Expenses of Commissioners and Salaries of Inspectors.		Remarks.
	1876-7.	1877-8.	1876-7.	1877-8.	
	$ cts.	$ cts.	$ cts.	$ cts.	
Algoma			150 00	150 00	
Addington	280 00	772 60	544 26	582 26	Dunkin Act in force, 1878-9.
Brant, North	80 00	383 00	442 83	466 88	Dunkin Act in force, 1878-9.
Brant, South	358 00	500 00	610 66	659 97	Dunkin Act in force, 1878-9.
Brockville and South Leeds	300 00	260 00	828 00	751 50	
Bruce, North	220 00	158 00	503 80	501 20	
Bruce, South	496 50	54 50	706 03	674 35	
Cardwell	170 00	320 00	510 00	605 29	
Cornwall	180 00	120 00	273 20	435 70	
Carleton	220 00	20 00	585 69	549 20	
Dufferin	280 00	400 00	559 20	522 22	
Dundas	214 00	145 00	568 80	503 00	
Durham, East	40 00	40 00	480 00	479 20	
Durham, West	200 00	60 00	545 50	492 00	
Elgin	713 00	282 00	649 86	813 88	
Essex, North	300 00	220 00	455 60	800 00	
Essex, South	60 00	40 00	411 20	500 00	
Frontenac	175 00	45 00	462 00	461 30	Dunkin Act in force, in parts.
Glengarry	125 00	220 00	590 00	525 25	
Grey, North	449 90	450 00	500 00	500 00	Dunkin Act in force during 1877-8, and part of 1878-9.
Grey, East	160 00	60 00	525 00	450 00	Dunkin Act in force during 1877-8, and part of 1878-9.
Grey, South	80 00	220 00	457 20	450 00	Dunkin Act in force during 1877-8, and part of 1878-9.
Halton	230 00	41 00	556 35	526 80	
Haldimand	127 00	20 00	499 00	480 00	
Hamilton	1,173 00	1,170 00	700 00	900 00	
Hastings, North	80 00	20 00	513 00	458 00	
Hastings, West	120 00	60 00	412 50	412 50	
Hastings, East	240 00	144 00	588 60	450 00	
Huron, South	580 00	220 00	553 00	560 00	
Huron, East	523 00	225 00	637 00	601 00	
Huron, West	270 00	498 25	530 65	608 36	
Kent, East	160 00	200 00	523 30	485 15	
Kent, West	330 85	155 00	642 00	583 60	
Kingston	440 00	819 00	733 33	800 00	
Lambton, East	350 00	100 00	498 50	484 00	
Lambton, West	220 00	220 00	465 55	462 00	
Lanark, North	330 00	229 75	458 80	461 90	
Lanark, South	180 00	16 00	462 00	461 50	
Leeds,& Grenville,North, & South Grenville	105 00	100 00	634 00	630 00	
Lennox	297 75	558 95	456 00	450 00	Dunkin Act in force, 1877-8
Lincoln	1,220 00	490 00	500 00	800 00	
London	758 00	723 80	700 00	800 00	
Middlesex, East	612 00	512 00	590 00	571 60	
Middlesex, North	160 00	200 00	531 00	538 50	
Middlesex, West	275 00	122 00	539 55	545 25	
Monck	60 00	185 65	485 00	537 50	
Muskoka and Parry Sound	45 00	85 00	404 50	367 00	
Nipissing		60 00			
Norfolk	461 00	459 00	608 30	621 28	
Northumberland, East	135 00	60 00	551 87	547 50	
Northumberland, West	400 00	40 00	472 00	461 60	
Ontario, North	480 00	120 00	658 00	550 00	
Ontario, South	665 00	385 00	513 00	552 20	
Ottawa	240 50	200 00	808 00	1000 00	
Oxford, North	220 00	300 00	521 70	515 00	
Oxford, South	438 34	385 00	566 20	517 13	

SCHEDULE E.

COMPARATIVE STATEMENT of amount of Fines, &c., in each License District, for the license years of 1876 7, and 1877-8, respectively.—*Continued.*

LICENSE DISTRICT.	FINES.		Paid on account of Expenses of Commissioners and Salaries of Inspectors.		Remarks.
	1876-7.	1877-8.	1876-7.	1877-8.	
	$ cts.	$ cts.	$ cts.	$ cts.	
Peel	360 00	125 00	563 00	534 00	
Perth, North	489 00	273 50	550 00	550 00	
Perth, South	665 00	260 00	535 00	551 70	
Peterborough, West	215 00	130 00	405 00	404 90	
Peterborough, East	160 00	90 00	479 40	459 60	
Prescott			464 50	454 50	
Prince Edward		160 00	502 00	500 00	Dunkin Act in force during both years.
Renfrew, South	120 00	80 00	408 00	418 00	
Renfrew, North	230 00	260 00	400 00	400 00	
Russell	210 00	400 00	648 00	503 85	
Simcoe, East	194 50	65 69	544 09	560 15	
Simcoe, South	215 00	115 00	505 60	476 00	
Simcoe, West	85 00	40 00	509 95	487 70	
Stormont	180 00	40 00	433 00	431 50	
Toronto	2,707 00	3,560 00	2619 92	2150 00	
Thunder Bay	250 00	357 00	154 00	177 00	
Victoria and Haliburton	433 00		633 33		
Victoria, South		100 00		600 00	For returns for 1876-7 see Victoria and Haliburton.
Victoria, N., & Haliburton		90 00		400 00	
Waterloo, North	360 00	345 00	482 50	479 50	
Waterloo, South	260 00	70 60	635 00	608 00	
Welland	891 15	949 85	537 20	592 75	
Wellington, West	155 00	322 00	650 00	587 60	
Wellington, Centre	723 00	215 00	580 40	544 10	
Wellington, South	265 00	100 00	451 50	450 00	
Wentworth, North	70 00	150 00	541 50	540 65	
Wentworth, South	395 00	340 00	534 60	515 40	
York, East	590 00	560 00	533 03	480 90	
York, West	440 00	470 00	576 00	570 00	
York, North	220 00	580 00	549 45	507 00	
Totals	27,910 49	24,142 54	46,097 41	46,547 37	

SCHEDULE F.

STATEMENT shewing the Municipalities in which the Dunkin Act has been repealed during the year 1878, together with the number of Votes polled for and against such repeal.

MUNICIPALITY.	Date of Repeal.	Votes Polled.		Total Majority for Repeal.
		For.	Against.	
Brant, County of	26th February, 1878	958	141	817
Grey, do	16th October, 1878	1388	161	1227
Frontenac, do	By-law quashed.			
Kent, do	do do			
Lennox and Addington, Counties of	1878	2392	1591	801
Oxford, County of	By-law quashed.			
Peterborough, County of	do do			
Do Town of	November, 1878	172	5	167

The Act is still in force in the Counties of—
Bruce,*
Lanark,
Northumberland and Durham,*
Ontario,
Prince Edward, and
York;
As also in several Townships, parts of Counties, in various sections of the Province.

* The Act has been repealed in these Counties since the above was in type, and subsequent to the 31st December, 1878.

SCHEDULE G.

STATEMENT shewing the sums paid by Municipal Councils of Counties in which the Dunkin Act was in force, to the credit of the License Fund Accounts of the Districts, during the License year 1877-8, and the period from 1st May to 31st December of the License year 1878-9.

MUNICIPALITY.	LICENSE DISTRICT.	AMOUNTS PAID.		AMOUNTS REFUNDED.	RESIDUE.
		1877-8.	1878-9.		
		$ cts.	$ cts.	$ cts.	$ cts.
Brant, County of	North Brant	493 34		429 01	64 33
Lanark, do	North Lanark		400 00		400 00
Do do	South Lanark		286 66		286 66
Lennox and Addington, United Counties of	Addington	193 50		193 50	
Do do	Lennox	297 37			297 37

SCHEDULE H.

STATEMENT of the sums paid out of the Consolidated Revenue to the credit of the License Fund Accounts of the Districts in which the Dunkin Act was in force, during the license year 1877-8, and the first eight months of the license year 1878-9.

LICENSE DISTRICT.	Amounts paid out.	
	1877-8.	1st May to 31st December 1878-9.
	$ cts.	$ cts.
Brant, North	32 11	
Durham, East		183 33
Durham, West		200 00
Grey, East	216 50	250 00
Grey, South	183 33	250 00
Lanark, North		200 00
Lanark, South		143 33
Lennox	150 00	
Northumberland, East		200 00
Northumberland, West		200 00
Ontario, North		250 00
Ontario, South		283 33
Prince Edward	328 44	458 33
Stormont, Township of Roxborough in		43 04
York, East		500 00
York, North		406 66

SCHEDULE

STATEMENT shewing the payments made by Brewers and Distillers in respect by them; the interest allowed on such payments; the amounts refunded to them;

1	2	3	4	5
LICENSE DISTRICT.	Names of Brewers and Distillers.	Amounts paid by Brewers, &c., on account of Licenses.		
		To the credit of the License Fund.	To the Issuer of Licenses.	To the Treasurer of the Municipality.
		$ cts.	$ cts.	$ cts.
Brant South	Humphrey & Davies	150 00		
"	George White	150 00		
Bruce, South	David Schwan	150 00		
Do	do	150 00		
Do	Bateman and Wardell	150 00		
Do	Peter Graf	150 00		
Do	do	150 00		
Do	David Fehrenhact	150 00		
Do	do	150 00		
Carleton	W. H. Berry	150 00		
Do	do	150 00		
Do	do			
Do	John Rochester	150 00		
Do	do	150 00		
Brockville and South Leeds	Taylor & Co.	150 00		
Durham, East	Winslow & Ambrose	150 00		
Do	do	150 00		
Do	do		50 00	
Do	do		50 00	
Do	James Calcutt	150 00		
Do	do	150 00		
Do	do		50 00	
Do	James B. West		50 00	
Elgin	William Reisor	150 00		
Do	do	150 00		
Do	Gilbert, Burke & Co.	150 00		
Do	do	150 00		
Essex, North	Thomas Musson	150 00		
Do	do	150 00		
Do	Robert Shanks & Co.	150 00		
Do	do	150 00		
Do	Hiram Walker & Co.	150 00		
Do	do	150 00		
Do	Robert Ray	150 00		
Do	Leo Lefevre	150 00		
Frontenac	James Fisher	150 00		
Do	do	150 00		
Grey, North	Thomas Sutton	150 00		
Do	do			
Do	Henry Malone			
Do	do			
Grey, South	Henry Huether	150 00		
Do	George Gray			
Halton	John Brain	150 00		
Do	do	150 00		
Hamilton	R. L. Gunn (Assignee of the Estate of J. Bell)	150 00		
Do	Barnes & Haskins		50 00	50 00
Do	Peter Grant & Son		50 00	
Do	do	150 00		
Do	do	150 00		
Do	Leopold Bauer		50 00	
Do	do			50 00
Do	do	150 00		
Do	do	150 00		
Do	David Kuntz	150 00		
Do	do		50 00	

I.

of Licenses taken out by them under the License Acts; the fines paid and the amounts refunded by the Municipalities to the Consolidated Revenue.

6	7	8	9	10	11
Amount of Fines paid by Brewers, &c.	Dates of Payments by Brewers, &c.	Interest on such payments to April 15th, 1878.	Amounts refunded to Brewers, &c.		Amount deducted from share of License Fund payable to Municipality, and refunded to Consolidated Revenue.
			From the License Fund.	From the Consolidated Revenue, including interest.	
$ cts.		$ cts.	$ cts.	$ cts.	$ cts.
.....	May 1st, 1876	17 61	150 00	17 61	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	June 1st, 1876	16 86	150 00	16 86	
.....	May 4th, 1877	8 49	150 00	8 49	
.....	September 30th, 1876	17 25	150 00	17 25	
.....	June 23rd, 1876	16 29	150 00	16 29	
.....	May 30th, 1877	7 85	150 00	7 85	
.....	July 14th, 1876	15 75	150 00	15 75	
.....	May 23rd, 1877	8 05	150 00	8 05	
.....	June 2nd, 1876	16 80	150 00	16 80	
.....	July 23rd, 1877	6 54	150 00	6 54	
20 00	March, 1878	07	20 00	07	
.....	June 2nd, 1876	16 80	150 00	16 80	
.....	May 1st, 1877	8 59	150 00	8 59	
.....	April 16th, 1877	9 00	150 00	9 00	
.....	May 8th, 1876	17 39	150 00	17 39	
.....	May 2nd, 1877	8 56	150 00	8 56	
.....	August 2nd, 1874	11 10	.....	61 10	
.....	October 16th, 1875	7 50	.....	57 50	
.....	May 10th, 1876	17 37	150 00	17 37	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	October 16th, 1875	7 50	.....	57 50	
.....	August 11th, 1874	11 04	.....	61 04	
.....	June 17th, 1876	16 54	150 00	16 54	
.....	May 29th, 1877	7 90	150 00	7 90	
.....	June 4th, 1876	16 77	150 00	16 77	
.....	May 29th, 1877	7 90	150 00	7 90	
.....	May 11th, 1876	17 37	150 00	17 37	
.....	May 31st, 1877	7 86	150 00	7 86	
.....	May 11th, 1876	17 37	150 00	17 37	
.....	May 2nd, 1877	8 59	150 00	8 59	
.....	May 30th, 1876	16 86	150 00	16 86	
.....	May 2nd, 1877	8 59	150 00	8 59	
.....	May 11th, 1876	17 37	150 00	17 37	
.....	June 5th, 1876	16 77	150 00	16 77	
.....	June 15th, 1876	16 50	150 00	16 50	
.....	July 30th, 1877	6 36	150 00	6 36	
.....	May 12th, 1876	17 34	150 00	17 34	
20 00	March 26th, 1877	1 26	20 00	1 26	
60 00	May 1st, 1877	3 43	60 00	3 43	
20 00	November 9th, 1877	51	20 00	51	
.....	July 14th, 1876	15 76	150 00	15 76	
20 00	.....	1 34	.....	21 34	
.....	April 28th, 1876	17 68	150 00	17 68	
.....	April 27th, 1877	8 71	150 00	8 71	
.....	January 9th, 1877	11 41	150 00	11 41	
.....	.....	21 92	.....	121 92	60 96
.....	June 4th, 1874	11 59	.....	61 59	
.....	July 3rd, 1876	16 06	150 00	16 06	
.....	May 30th, 1877	7 89	150 00	7 89	
.....	June 15th, 1874	11 50	.....	61 50	
.....	" " "	11 50	.....	61 50	61 50
.....	July 3rd, 1876	16 06	150 00	16 06	
.....	June 7th, 1877	7 69	150 00	7 69	
.....	August 3rd, 1876	15 28	115 00	15 28	
.....	June 15th, 1874	11 50	.....	61 50	

SCHEDULE I.—STATEMENT shewing the Payments made by

	3	4	5
LICENSE DISTRICT.	Names of Brewers and Distillers.	Amounts paid by Brewers, &c., on account of Licenses.	
		To the credit of the License Fund.	To the Issuer of Licenses.	To the Treasurer of the Municipality.
		$ cts.	$ cts.	$ cts.
Hamilton.—*Continued*	David Kuntz			50 00
Do	do			
Do	John Eydt	150 00		
Do	do	150 00		
Do	do			
Do	Henry Kuntz	150 00		
Huron, South	Henry Colbert	150 00		
Do	do	150 00		
Do	do		50 00	
Do	Valentine Rath	150 00		
Do	do	150 00		
Do	do			
Huron, West	Henry Wells	150 00		
Do	do	150 00		
Do	do		50 00	
Hastings, West	John Flindall	150 00		
Do	James H. Roy	150 00		
Do	William Severn	150 00		
Kent, East	Weiner & Knapp	150 00		
Do	Joseph Waterhouse			
Do	Harriott Bros	150 00		
Kent, West	Joseph Waterhouse	150 00		
Do	do	150 00		
Do	Charles Chubb	150 00		
Do	C. H. Wood	150 00		
Do	do	150 00		
Kingston	Jacob Bayus & Son	150 00		
Do	Philip Bayus & Son	150 00		
Do	Robert Wales	150 00		
Do	George Thompson	150 00		
Do	do	150 00		
Do	John McKay	150 00		
Lambton, West	John Russell	150 00		
Lanark, South	James Spalding	150 00		
Do	do	150 00		
Do	do		50 00	
Do	J. A. McLaren	150 00		
Do	do		50 00	
Leeds and Grenville, North, and South Grenville	A. Whiting	150 00		
Do do	do	150 00		
Do do	Prescott Brewing and Malting Co.	150 00		
Do do	do do	150 00		
Do do	John McCarthy & Co	150 00		
Do do	do	150 00		
Do do	do		50 00	
Lennox	John Bowey	150 00		
London	Carling & Co	150 00		
Do	do	150 00		
Do	do		50 00	50 00
Do	John Labatt	150 00		
Do	do	150 00		
Do	do		50 00	
Do	do			
Do	do			50 00
Do	John Hamilton	150 00		
Do	do	150 00		
Do	do		50 00	
Do	do			50 00

Brewers and Distillers in respect Licenses, &c.—*Continued.*

6	7	10			
Amount of Fines paid by Brewers, &c.	Dates of Payments by Brewers, &c.	Interest on such Payments to April 15th, 1878.	Amounts refunded to Brewers, &c.		Amount deducted from share of License Fund payable to Municipality, and refunded to Consolidated Revenue.
			From the License Fund.	From the Consolidated Revenue, including interest.	
$ cts.		$ cts.	$ cts.	$ cts.	$ cts.
.....	June 15th, 1874	11 50	.....	61 50	61 50
50 00	July 25th, 1876	5 17	50 00	5 17	
.....	July 31st, 1876	15 36	150 00	15 36	
.....	May 29th, 1877	7 90	.....	7 90	
50 00	August 12th, 1876	5 02	50 00	5 02	
.....	June 29th, 1877	7 15	150 00	7 15	
.....	May 19th, 1876	17 16	150 00	17 16	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	October 21st, 1875	7 45	.....	57 45	
.....	May 26th, 1876	16 98	150 00	16 98	
.....	May 1st, 1877	8 61	150 00	8 61	
20 00	May 26th, 1876	2 26	20 00	2 26	
.....	June 21st, 1876	16 36	150 00	16 36	
.....	May 3rd, 1877	8 53	150 00	8 53	
.....	October 16th, 1875	7 50	.....	57 50	
.....	June 27th, 1877	7 21	150 00	7 21	
.....	July 23rd, 1877	6 55	150 00	6 55	
.....	July 23rd, 1877	6 55	150 00	6 55	
.....	May 12th, 1877	8 31	150 00	8 31	
20 00	August 4th, 1876	2 03	20 00	2 03	
.....	June 1st, 1876	16 84	150 00	16 84	
.....	July 31st, 1876	15 36	150 00	15 36	
.....	May 9th, 1877	8 41	150 00	8 41	
.....	November 6th, 1876	12 93	150 00	12 93	
.....	August 28th, 1876	14 68	150 00	14 68	
.....	June 9th, 1877	7 64	150 00	7 64	
.....	May 20th, 1876	17 13	150 00	17 13	
.....	May 2nd, 1877	8 56	150 00	8 56	
.....	May 23rd, 1876	17 07	150 00	17 07	
.....	July 3rd, 1876	16 06	150 00	16 06	
.....	May 29th, 1877	7 90	150	7 90	
.....	May 8th, 1877	8 44	150 00	8 44	
.....	June 15th, 1876	16 54	150 00	16 54	
.....	June 16th, 1876	16 54	150 00	16 54	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	April 17th, 1874	11 98	.....	61 98	
.....	July 27th, 1876	15 46	150 00	15 46	
.....	April 14th, 1874	12 00	.....	62 00	
.....	June 14th, 1876	16 15	150 00	16 15	
.....	May 5th, 1877	8 49	150 00	8 49	
.....	June 14th, 1876	16 50	150 00	16 50	
.....	May 5th, 1877	8 49	150 00	8 49	
.....	June 14th, 1876	16 50	150 00	16 50	
.....	May 5th, 1877	8 49	150 00	8 49	
.....	May 4th, 1874	11 82	.....	61 82	
.....	June 18th, 1876	16 44	150 00	16 44	
.....	May 31st, 1876	16 86	150 00	16 86	
.....	April 30th, 1877	8 64	150 00	8 64	
.....	April 15th, 1874	24 00	.....	124 00	62 00
.....	June 20th, 1876	16 38	150 00	16 38	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	April 15th, 1874	12 00	.....	62 00	
20 00	June 20th, 1876	2 18	20 00	2 18	
.....	June 18th, 1874	11 48	.....	61 48	61 48
.....	May 31st, 1876	16 86	150 00	16 86	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	April 7th, 1874	12 06	.....	62 06	
.....	May 14th, 1874	11 75	.....	61 75	61 75

SCHEDULE I.—STATEMENT shewing the Payments made by

1	2	3	4	5
LICENSE DISTRICT.	Names of Brewers and Distillers.	Amounts paid by Brewers, &c., on account of Licenses.		
		To the credit of the License Fund.	To the Issuer of Licenses.	To the Treasurer of the Municipality.
		$ cts.	$ cts.	$ cts.
Middlesex East	Robert Arkell	150 00		
Do	do	150 00		
Do	do		50 00	
Middlesex West	Mathew Bixel	150 00		
Do	Thomas Snell	150 00		
Norfolk	E. P. Kent	150 00		
Do	do	150 00		
Do	N. C. Ford	150 00		
Do	do	150 00		
Northumberland West	C. W. Mackecknie	150 00		
Do	do	150 00		
Do	do			
Do	Kingsley Calcutt	150 00		
Do	do	150 00		
Do	do			
Ottawa	George Stirling	150 00		
Do	do	150 00		
Do	H. F. Brading	150 00		
Do	do	150 00		
Oxford South	Joseph Lukes & Son	150 00		
Do	do	150 00		
Do	Leonard Bixel & Son	150 00		
Do	do	150 00		
Oxford North	S. & J. Collins	150 00		
Do	do	150 00		
Do	Edwards & Pettit	150 00		
Perth North	Peter Kestner	150 00		
Do	do	150 00		
Do	William Russell	150 00		
Do	do	150 00		
Do	Samuel Davidson	150 00		
Do	Heppler & Forty	150 00		
Peterborough East	Henry Calcutt	150 00		
Do	do	150 00		
Do	A. H. Peck	150 00		
Do	do	150 00		
Prince Edward	W. P. Despard	150 00		
Simcoe East	Allen & Ravell	150 00		
Simcoe West	Thomas Simpson	150 00		
do	do	150 00		
do	James Anderson	150 00		
do	do	150 00		
do	do	150 00		
Toronto	William Copeland	150 00		
Do	do	150 00		
Do	do		50 00	50 00
Do	Thomas Davis & Bro	150 00		
Do	do do	150 00		
Do	do do		50 00	50 00
Do	Gooderham & Worts	150 00		
Do	do	150 00		
Do	do		50 00	50 00
Do	John Ball	150 00		
Do	do	150 00		
Do	do		50 00	50 00
Do	John Cornell	150 90		
Do	do	150 00		
Do	do		50 00	50 00

Brewers and Distillers in respect Licenses, &c.—*Concluded.*

6	7	8	9	10	11
Amount of Fines paid by Brewers, &c.	Dates of Payments by Brewers, &c.	Interest on such payments to April 15th, 1878.	Amounts refunded to Brewers, &c.		Amount deducted from share of License Fund payable to Municipality, and refunded to Consolidated Revenue.
			From the License Fund.	From the Consolidated Revenue, including interest.	
$ cts.		$ cts.	$ cts.	$ cts.	$ cts.
.....	June 7th, 1876	16 69	150 00	16 69	
.....	May 2nd, 1877	8 44	150 00	8 44	
.....	May 4th, 1874	11 84	.....	61 84	
.....	June 24th, 1876	16 29	150 00	16 29	
.....	June 28th, 1876	16 19	150 00	16 19	
.....	June 23rd, 1876	16 30	150 00	16 30	
.....	May 2nd, 1877	8 56	150 00	8 56	
.....	June 30th, 1876	16 14	150 00	16 14	
.....	May 8th, 1877	8 41	150 00	8 41	
.....	June 5th, 1876	16 74	150 00	16 74	
.....	June 8th, 1877	7 66	150 00	7 66	
20 00	June 25th, 1877	96	20 00	96	
.....	November 9th, 1876	12 88	150 00	12 88	
.....	May 8th, 1877	8 41	150 00	8 41	
20 00	November 8th, 1876	1 72	.....	1 72	
.....	May 26th, 1876	16 98	150 00	16 98	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	June 5th, 1876	16 74	150 00	16 74	
.....	May 23rd, 1877	8 05	150 00	8 05	
.....	June 9th, 1876	16 63	150 00	16 63	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	May 30th, 1876	16 89	150 00	16 89	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	May 10th, 1876	17 37	150 00	17 37	
.....	April 30th, 1877	8 61	150 00	8 61	
.....	June 20th, 1876	16 38	150 00	16 38	
.....	June 6th, 1876	16 71	150 00	16 71	
.....	May 3rd, 1877	8 53	150 00	8 53	
.....	June 3rd, 1876	16 77	150 00	16 77	
.....	July 1st, 1877	7 11	150 00	7 11	
.....	December 8th, 1876	12 16	150 00	12 16	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	June 19th, 1876	16 39	150 00	16 39	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	June 19th, 1876	16 39	150 00	16 39	
.....	May 8th, 1877	8 41	150 00	8 41	
.....	May 11th, 1876	17 34	150 00	17 34	
.....	July 16th, 1877	6 73	150 00	6 73	
.....	May 1st, 1876	17 61	150 00	17 61	
.....	May 2nd, 1877	8 56	150 00	8 56	
.....	May 1st, 1876	17 61	150 00	17 61	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	October 23rd, 1875	7 43	.....	57 43	
.....	May 3rd, 1876	17 53	150 00	17 53	
.....	May 19th, 1877	8 16	150 00	8 16	
.....	April 9th, 1874	24 08	.....	124 08	62 04
.....	June 7th, 1876	16 69	150 00	16 69	
.....	May 21st, 1877	8 11	150 00	8 11	
.....	April 7th, 1874	24 12	.....	124 12	62 06
.....	May 9th, 1876	17 41	150 00	17 41	
.....	May 22nd, 1877	8 08	150 00	8 08	
.....	April 7th, 1874	24 12	.....	124 12	62 06
.....	June 9th, 1876	16 63	150 00	16 63	
.....	June 7th, 1877	7 69	150 00	7 69	
.....	November 18th, 1874	20 46	.....	120 46	60 23
.....	June 6th, 1876	16 71	150 00	16 71	
.....	June 11th, 1877	7 62	150 00	7 62	
.....	April 16th, 1874	24 00	.....	124 00	62 00

SCHEDULE I.—Statement shewing the Payments made by

1	2	3	4	5
LICENSE DISTRICT.	Names of Brewers and Distillers.	Amounts paid by Brewers, &c., on account of Licenses.		
		To the credit of the License Fund.	To the Issuer of Licenses.	To the Treasurer of the Municipality.
		$ cts.	$ cts.	$ cts.
Toronto	Thomas Allen	150 00		
Do	do	150 00		
Do	do		50 00	50 00
Do	O'Keefe & Co.	150 00		
Do	do	150 00		
Do	do		50 00	50 00
Do	Cosgrave & Co.	150 00		
Do	do	150 00		
Do	do		50 00	50 00
Do	Toronto Brewing & Malting Co.	150 00		
Do	do	150 00		
Do	John Waltz	150 00		
Do	do	150 00		
Do	do		50 00	
Do	W. L. Hubertus	150 00		
Do	do	150 00		
Do	do		50 00	50 00
Victoria, South	C. H. Lloyd	150 00		
Do	do	150 00		
Do	H. Calcutt		50 00	
Do	do			50 00
Waterloo, North	David Kuntz	150 00		
Do	do	150 00		
Do	C. Heuther	150 00		
Do	do	150 00		
Do	Joseph Spetz	150 00		
Do	do	150 00		
Do	George Seip	150 00		
Do	do	150 00		
Do	George Randall & Co.	150 00		
Do	do	150 00		
Waterloo, South	J. J. Rau	150 00		
Do	do	150 00		
Do	Henry R. Kelly	150 00		
Do	do	150 00		
Do	George Roose	150 00		
Do	do	150 00		
Do	Jacob Hespeler	150 00		
Do	Peter Barnhardt	150 00		
Do	do	150 00		
Do	Peter Ernst	150 00		
Do	do	150 00		
Do	James Brogden			
Welland	Lannan & Fisher		50 00	
Do	William Russell			50 00
Do	do		50 00	
Do	George White			50 00
Do	do		50 00	
Wellington, Centre	Holland & Co	150 00		
Do	do	150 00		
Do	Conrad Doerbecker	150 00		
Do	do	150 00		
Do	Jacob Reuter	150 00		
Do	do	150 00		
Wellington, South	George Sluman	150 00		
Do	do			
Wentworth, North	Mathew Wright	150 00		
Do	do	150 00		
York, North	S. Sykes	150 00		
York, East	John Severn		50 00	50 00

Brewers and Distillers in respect Licenses, &c.—*Continued.*

6	7	8	9	10	11
Amount of Fines paid by Brewers, &c.	Dates of Payments by Brewers, &c.	Interest on such payments to April 15th, 1878.	Amounts refunded to Brewers, &c. From the License Fund.	Amounts refunded to Brewers, &c. From the Consolidated Revenue, including interest.	Amounts deducted from share of License Fund payable to Municipality, and refunded to Consolidated Revenue.
$ cts.		$ cts.	$ cts.	$ cts.	$ cts.
.....	June 10th, 1876	16 62	150 00	16 62	
.....	June 26th, 1877	7 23	150 00	7 23	
.....	April 8th, 1874.....	24 10	.....	124 10	62 05
.....	May 8th, 1876.....	17 44	150 00	17 44	
.....	July 18th, 1877.....	6 70	150 00	6 70	
.....	April 2nd, 1874	24 23	.....	124 23	62 11
.....	June 12th, 1876	16 56	150 00	16 56	
.....	July 27th, 1877.....	6 46	150 00	6 46	
.....	April 18th, 1874.....	23 96	.....	123 96	61 98
.....	May 18th, 1876	17 19	150 00	17 19	
.....	September 26th, 1877	4 98	150 00	4 98	
.....	June 5th, 1876	16 74	150 00	16 74	
.....	December 22nd, 1877	2 83	150 00	2 83	
.....	April 15th, 1874.....	12 00	.....	62 00	
.....	March 15th, 1877.....	9 75	150 00	9 75	
.....	November 7th, 1877	3 94	150 00	3 94	
.....	June 8th, 1874	23 13	.....	123 13	61 56
.....	June 18th 1876	16 41	150 00	16 41	
.....	June 30th, 1877.....	7 11	150 00	7 11	
.....	June 17th, 1874	11 50	.....	61 50	
.....	June 20th, 1874	11 46	.....	61 46	61 46
.....	July 19th, 1876.....	15 66	150 00	15 66	
.....	May 26th, 1877.....	7 98	150 00	7 98	
.....	June 24th, 1876	16 29	150 00	16 29	
.....	May 22nd, 1877.....	8 08	150 00	8 08	
.....	June 26th, 1876	16 23	150 00	16 23	
.....	May 23rd, 1877.	8 05	150 00	8 05	
.....	May 1st, 1876.....	17 61	150 00	17 61	
.....	May 1st, 1877	8 61	150 00	8 61	
.....	June 26th, 1876	16 23	150 00	16 23	
.....	May 23rd, 1877	8 05	150 00	8 05	
.....	May 30th, 1877	16 98	150 00	16 89	
.....	May 1st, 1877.....	8 61	150 00	8 61	
.....	May 15th, 1876	17 25	150 00	17 25	
.....	May 15th, 1877.....	8 25	150 00	8 25	
.....	May 1st, 1876.....	17 61	150 00	17 61	
.....	May 1st. 1877	8 61	150 00	8 61	
.....	June 6th, 1877	7 74	150 00	7 74	
.....	May 30th, 1876	16 69	150 00	16 69	
.....	May 3rd, 1877.....	8 55	150 00	8 55	
.....	May 29th, 1876	16 90	150 00	16 90	
.....	May 1st, 1877.....	8 61	150 00	8 61	
20 00	May 15th, 1877	1 10	20 00	1 10	
.....	June 22nd, 1874	11 44	.....	61 44	
.....	June 29th, 1874	11 38	.....	61 38	61 38
.....	July 2nd, 1874	11 36	.....	61 36	
.....	June 15th, 1874.....	11 50	.....	61 50	61 50
.....	July 20th, 1874.....	11 21	.....	61 21	
.....	May 26th, 1876	16 98	150 00	16 98	
.....	May 1st, 1877.....	8 61	150 00	8 61	
.....	May 31st, 1876..	16 86	150 00	16 86	
.....	May 3rd, 1877..	8 53	150 00	8 53	
.....	May 31st, 1876.....	16 86	150 00	16 86	
.....	May 2nd, 1877	8 56	150 00	8 56	
.....	May 16th, 1877.	8 26	150 00	8 26	
20 00	July 3rd, 1877.....	93	20 00	93	
.....	June 15th, 1876.	16 50	150 00	16 50	
.....	May 1st, 1877.....	8 61	150 00	8 61	
.....	May 4th, 1876.....	17 52	150 00	17 52	
.....	May 12th, 1874.....	23 54	.....	123 54	61 77
			TOTALS.	5,439 77	1,171 39

SCHEDULE K.

COMPARATIVE STATEMENT showing the number of Prisoners committed for drunkenness to the County Gaols during the years 1874, 1875, 1876, 1877, and 1878.

GAOLS.	1874.	1875.	1876.	1877.	1878.
Algoma	32	11	8	4	4
Brant	173	118	97	84	75
Bruce	.....	1	1	2	17
Carleton	216	341	387	319	283
Elgin	21	7	31	41	47
Essex	164	113	87	55	60
Frontenac	89	113	143	137	139
Grey	11	28	15	13	14
Haldimand	7	9	7	2	6
Halton	9	18	21	15	6
Hastings	20	28	20	13	43
Huron	34	50	24	29	22
Kent	27	32	24	20	20
Lambton	166	113	123	84	142
Lanark	13	5	7	6	10
Leeds and Grenville	87	84	84	9	84
Lennox and Addington	9	6	6	4	5
Lincoln	63	49	56	98	68
Middlesex	45	101	155	106	211
Muskoka and Parry Sound	.....	.....	.....	.....	8
Norfolk	18	20	11	35	21
Northumberland and Durham	35	51	56	67	38
Ontario	13	16	10	10	12
Oxford	29	36	57	30	46
Peel	29	22	32	45	22
Perth	52	46	54	75	56
Peterborough	14	13	5	11	5
Prescott and Russell	1	.....	2	6	.....
Prince Edward	20	27	31	29	22
Renfrew	5	1	2	3	2
Simcoe	54	22	66	91	133
Stormont, Dundas and Glengarry	2	18	7	33	18
Thunder Bay	.....	.....	.....	.....	95
Victoria and Haliburton	10	13	22	32	25
Waterloo	3	7	13	10	4
Welland	95	61	69	101	321
Wellington	122	113	41	36	26
Wentworth	109	315	259	396	382
York	1553	1578	1755	1807	1293
Totals	3350	3586	3888	3918	3785

REPORT

OF THE

LIBRARIAN OF THE LEGISLATIVE ASSEMBLY

OF THE

PROVINCE OF ONTARIO.

To the Honourable the Legislative Assembly of the Province of Ontario :

The Report of the Librarian on the state of the Library, respectfully represents :—

That, during the past year, the additions made to the Library were more numerous than those of 1876 and 1877. Large accessions have been secured for the Department of "Constitutional and Parliamentary History and Practice." These comprise, for the most part, certain important documents published by the authority of the Imperial Parliament. In chronological order come first the "Reports from Committees of the House of Commons," which will be found on page 72 of the Supplementary Catalogue, under the head "Addenda." These Reports, which consist of fifteen volumes folio, and an Index, range from the year 1715 to 1802 ; and deal, more or less, with the great public questions which, for nearly a century, forced themselves on the attention of the British Parliament.

An analysis of these "Reports from Committees of the House of Commons," will serve to give an idea of their interest and importance. They treat, amongst other subjects, of the following : — Legislation and Jurisprudence ; Ecclesiastical matters ; History ; Army ; Navy ; Agriculture ; Trade and Commerce ; Manufactures ; Revenue and Finance ; Colonies ; East India Affairs ; Records and Public Libraries ; Public Works ; Scientific Subjects ; Discoveries and Inventions useful to the Public ; Provisions ; Poor ; Highways ; Miscellaneous.

To the same Department of Constitutional and Parliamentary History and Practice, have been added a considerable number of the more recent publications of the Imperial Legislature. Under the title, "Commons' Papers ; Business of the House," are comprised a valuable series of documents relating to the management of the Public and Private Business of Parliament. Amongst them will also be found all the papers in the celebrated case of Stockdale *versus* Hansard ; in which one of the privileges claimed by the House of Commons was refused by the Court of Queen's Bench ; as well as the Records in the case of Howard *versus* Gosset, arising out of the litigation of Stockdale.

There have also been secured for the Department already named, a series of Parliamentary Publications, extending over the years 1867-'8-'9-'70, dealing with the subjects of Election Petitions.

There have been added to the Departments "History of Great Britain and Ireland," and general History, all the more important publications of the year.

In the Department of Canadian History, there have been large and important augmentations. In respect to this Department, one object has been kept steadily in view :

to endeavour to build up a collection, as complete as possible, of all publications relating to Canadian history and progress. A glance at the Supplementary Catalogue, pages 16-28, will suffice to show what was, during the past year, achieved in the pursuit of the object in question. From the publications of the Imperial Parliament there has been made a large selection of such of them as relate to Canadian subjects. The Papers extend over a momentous epoch in our history, the period preceding the Insurrection of 1837, and ending with the concession of Responsible Government. The questions which, in those times moved so deeply the public mind of Upper and Lower Canada, will be found, in these documents, stated with all possible fullness and fairness. Under the title of each volume is appended a carefully prepared Table of Contents.

The collection of Canadian Pamphlets has been increased from twenty-one to forty-six volumes. The Pamphlets have been arranged, as far as possible, according to the nature and relationship of the subjects with which they deal. To further the convenience of members, as well as to facilitate research, the title of every pamphlet, its date and its place of issue, have been carefully catalogued. It is to be hoped that the collection now in process of forming, in this Library, will prove not unworthy of the notice of the student of our past politics and our Constitutional progress.

There were classified, bound and placed on record, during the year, twenty-four volumes of old Canadian Newspapers. Their names will be found on pages 65, 66, 67, of the Supplementary Catalogue. Many of these publications have long ceased to exist; others have passed altogether out of popular remembrance. They are not the less valuable, however, as landmarks in the history of our political literature; and as showing from what small beginnings became developed the Journalism of the Ontario of to-day. They are also of importance as embodying the antagonistic opinions and arguments of the two parties engaged in our old political conflicts.

In the additions made to the Library during 1878, no Department was overlooked. This observation applies particularly to Political and Social Science, Political Economy, Law, Useful Arts, Physical Science, Geography, Voyages and Travels, and Belles Lettres.

There has been prepared, for the convenience of members, an Alphabetical Index of Authors and of Subjects, to correspond with the Supplementary Catalogues of 1876, 1877, 1878. It is to be hoped that this Index, which demanded considerable labour and pains-taking in its preparation, will be found both useful and trustworthy.

The donations to the Library, during the year 1878, were as follow:—

From the Federal Government of the United States:

Official Documents, 1st Session. 44th Congress:—1875-'76.

Executive Documents. 1 vol.
United States Coast Survey. Second Session. Forty-third Congress:—1874-'75.

Official Documents, 2nd Session. 44th Congress:—1876-'77.

Senate Reports. 1 vol.
Senate Documents. 1 vol.
Senate, Miscellaneous. 1 vol.
Reports of Committees. 1 vol.
House, Miscellaneous. 1 vol.
Executive Documents. 1 vol.
Report of the Secretary of War. 5 vols.
Report on the Silver Commission. Vol. 1.
Internal Commerce of the United States.
Commercial Relations. 1 vol.
Florida Election. 1876. 1 vol.
Mississippi Elections. 1875-'76. 1 vol.
Offers for carrying the Mails. 1 vol.
South Carolina in 1876. Senate Committee. 3 vols.
Lousiana Election. 1876. (Sub-Committee.) 3 vols.
Lousiana Election. 1876. Parts 3 and 4. 1 vo.

Electoral Votes of New Jersey, Mo., West Va., Oregon and South Carolina. And the Smithsonian Report. 1 vol.

Claims of Citizens of the United States and Mexico. 1 vol.

Estimates of Appropriations. Indian Disbursements. And Report of Commissioner of Patents for 1876. 1 vol.

Wilson, Henry, Vice-President of the United States. Memorial Addresses on the Life and Character of. Delivered in the Senate and House of Representatives January 21, 1876. Portrait. 8vo. Washington, 1876.

Johnson, Andrew, ex-President of the United States, and a Senator from Tennessee. Memorial Addresses on the Life and Character of. Delivered in the Senate and House of Representatives, January 12, 1876. 8vo. Washington, 1876.

Kerr, Michael C. Speaker of the House of Representatives of the United States. Memorial Addresses on the Life and character of. Delivered in the House of Representatives, December 16, 1876, and in the Senate, February 27, 1877. Portrait. 8vo. Washington, 1877.

Caperton, Allen T., a Senator from West Va. Memorial Addresses on the Life and Character of. Delivered in the Senate and House of Representatives, December 21 and 22, 1876. Portrait. 8vo. Washington, 1877.

Digest of the Published Opinions of the Attorneys-General, and of the Leading Decisions of the Federal Courts, with reference to International Law, Treaties, &c. Revised edition. Washington, 1877.

The Federal and State Constitutions, Colonial Charters, and other Organic Laws of the United States. Compiled by Ben. Perley Poore. 2 vols. Washington, 1877.

Supreme Court, (D. C.) Reports. By A. MacArthur, Associate Justice. Vol. 2. 8vo Washington, 1877.

Nott, Chas. C., and Hopkins, Archibald. Court of Claims and Supreme Court Reports: 1874–1875; 1875–1876; 1876–1877. Vols. 10, 11 and 12. 8vo. Washington, 1875–1877.

Decisions of the United States Commissioner of Patents. For the year 1876. 8vo. Washington, 1877.

Constitution of the United States; and Revised Statutes relating to Presidential Electors; and Constitution and Election Laws of Flo., La., Ore., and S. C. Compiled by order of the Electoral Commission. 8vo. Washington.

Bulletin of the United States Geological and Geographical Survey of the Territories. Vol. 3: Nos. 1, 2, and 3. 8vo. Washington, 1877.

Humphreys, Captain A. A., and Abbot, Lieut. H. L., Engineer Corps, A.S.A. Report upon the Physics and Hydraulics of the Mississippi River; upon the protection of the Alluvial Region against overflow, &c., &c. Maps. 4to. Washington, 1876.

Report of the United States Commissioner of Agriculture. For 1875.

Monthly Reports of the United States Department of Agriculture. For 1875 and 1876. 2 vols.

List of Lights of North and South America, East and West coasts. Including British North America, &c. Corrected to March, 1877. 8vo. Washington, 1877.

List of Lights of the British Islands. Corrected to October, 1877. 8vo. Washington, 1877.

United States Survey of the Territories. F. V. Hayden, Geologist in charge. Monographs of North American Rodentia. By Capt. Coues, U.S.A., and Joel Joseph Allen. 4to. Washington, 1877.

United States Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, Geologist in charge. Contributions to North American Ethnology. Illustrations. 4to. Washington, 1877.

Tribes of the extreme North-West. By W. H. Dall.

Tribes of Western Oregon. By Geo. Gibbs.

United States Geological and Geographical Survey of the Territories, comprising Colorado and Parts of Adjacent Territories. Report of Progress of the Exploration for the year 1875. By F. V. Hayden, U.S. Geologist. 8vo. Washington, 1877.

United States Geographical Surveys West of 100th meridian. Lieut. Geo. M. Wheeler, U.S. Engineers, in charge. Illustrations. 4to. Washington, 1877.

Vol. 4. Palæontology. Reports upon the invertebrate Fossils in portions of Nevada, Utah, Colorado, New Mexico, and Arizona ; and the extinct vertebrata in New Mexico. By Dr. Chas. A. White and Prof. G. D. Cope. In two parts.

United States Geological Exploration of the Fortieth Parallel. Clarence King, Geologist in charge.

Microscopical Petrography. By Ferdinand Zirkel. Plates. 4to. Washington, 1876.

Daily Bulletin of Weather Reports. Signal Service U.S. Army. With the Synopsis, Probabilities, and Facts, Maps. Prepared under the direction of Brig.-Gen. A. J. Myer. 14 monthly vols. December, 1873–January, 1875. 4to. Washington, 1876–1878.

Fur-bearing Animals. A monograph of North American Mustelidæ. By Capt. Elliott Coues, U.S. Army. Illustrations. 8vo. Washington, 1877.

Ludlow, Lieut.-Col. U.S.A. Report of a Reconnaisance, from Carroll, Montana Territory, on the Upper Missouri, to the Yellowstone National Park, made in the summer of 1875. 4to. Washington, 1876.

American Ephemeris and Nautical Almanac. For 1879, 1880, 1881.

Official Documents, 1st and 2nd Session, 45th Congress :—

Congressional Record. Vol. 6 and Appendix. Special Session Senate, and 45th Congress. 1st Session. 1877.

Congressional Record. Vol. 7. Part 1. 45th Congress. 2nd Session. December 3, 1877, to February 13, 1878.

Congressional Record. Vol. 7. Part 2. 45th Congress. 2nd Session. February 13 to March 25, 1878.

Congressional Record. Vol. 7. Part 3. 45th Congress. 2nd Session. March 26 to May 1, 1878.

Congressional Record. Vol. 7. Part 4. 45th Congress. 2nd Session. May 1 to June 5, 1878.

Congressional Record. Vol. 7. Part 5 and Appendix. 45th Congress. 2nd Session, June 5 to June 20, 1878.

Index to Vol. 7. Parts 1–5. 45th Congress. 2nd Session.

Senate Journal. 1st Session, 45th Congress, 1877.

Senate Journal. 2nd Session, 45th Congress, 1877–'78.

House Journal. 1st Session, 45th Congress, 1877.

House Journal. 2nd Session, 45th Congress, 1877–'78.

Contested Elections. 1st Session, 45th Congress, 1877. 4 vols.

House Miscellaneous. 2nd Session, 45th Congress. Vol. 4.

House Miscellaneous. Vol. 5. Contested Elections in the House of Representatives. 1871–1876.

Senate Reports. 2nd Session, 45th Congress, 1877–'78. 3 vols.

Senate, Miscellaneous. 2nd Session, 45th Congress, 1877–'78. 1 vol.

Senate Documents. 2nd Session, 45th Congress, 1877–'78. 2 vols.

Executive Documents. 2nd Session, 45th Congress, 1877–'78.
Vol. 1.
Foreign Relations.

Executive Documents. 2nd Session, 45th Congress, 1877–'78.
Vols. 3, 4.
Report of the Chief of Engineers. Parts 1, 2.

Executive Documents. 2nd Session, 45th Congress, 1877–'78.
Vol. 7.
Reports of the Secretary of the Navy and Postmaster-General.

Executive Documents. 2nd Session, 45th Congress, 1877–'78.
Vol. 16.
Offers for carrying the Mails, etc.

Propagation of Food Fishes. 1st Session, 44th Congress, 1875–'76.
Bridging the Mississippi. 2nd Session, 45th Congress, 1877–'78.
Report of the Secretary of the Interior. "Education." 2nd Session, 44th Congress. Vol. 2. 1876–'77.
Arguments Before the Committee on Patents. 2nd Session, 45th Congress, 1877–'78.
U. S. Coast Survey. 1st Session, 44th Congress, 1875–'76.
United States Geological Exploration of the Fortieth Parallel. Clarence King, Geologist in charge. Illustrations. 4to. Washington, 1877.
Vol. 2.
Descriptive Geology. By Arnold Hague, and S. F. Emmons.
United States Geological Exploration of the Fortieth Parallel. Clarence King, Geologist in charge. Illustrations. 4to. Washington, 1877.
Vol. 4.
Part 1. Palæontology. By F. B. Meek. Part 2. Palæontology. By James Hall and R. P. Whitfield. Part 3. Ornithology. By Robert Ridgway.
United States Geological Survey of the Territories. F. V. Hayden, Geologist in charge. Illustrations. 4to. Washington, 1878.
Vol. 7.
Contributions to the Fossil Flora of the Western Territories. Part 2. The Tertiary Flora. By Leo Lesquereux.
United States Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell in charge. Contributions to North American Ethnology. Illustrations. 4to. Washington, 1877.
Vol 3.
Tribes of California. By Stephen Powers.
United States Geographical Surveys West of 100th Meridian. Lieutenant George M. Wheeler, U. S. Engineers, in charge. Illustrations. 4to. Washington, 1877.
Vol. 2.
Astronomy and Barometric Hypsometry.
Morton, Oliver P., a Senator from Indiana. Memorial Addresses on the Life and Character of. Delivered in the Senate and House of Representatives, Jan. 17th and 18th, 1878. Portrait. 8vo. Washington, 1878.
Parsons, Edwd. Young, a Representative from Kentucky. Memorial Addresses on the Life and Character of. Delivered in the House of Representatives and in the Senate, August 1st, 1876. Portrait. 8vo. Washington, 1878.
Constitution Manual and Digest: Rules and Practice of House of Representatives. 2nd Session, 45th Congress. Compiled by Henry H. Smith, Journal Clerk, House of Representatives. Second Edition. 8vo. Washington, 1878.
King, J. W., Chief Engineer, U. S. N. Report on European Ships of War and their Armament, etc. Torpedo Warfare, etc. Illustrations. Second Edition. 8vo. Washington, 1878.

From the State of Florida:—

Journals of the Assembly, 1877.

From the State of Illinois:—

Revenue Laws of Illinois. Auditor's Edition. 1877. (Pamph.)

Laws of Illinois relating to Railroads and Warehouses. Appendix. 8vo. Springfield, 1877.
Senate Journals. 1877.
House Journals. 1877.
Reports to the General Assembly. Illinois, 1877. 4 vols. Vol. 1: Parts 1-2; vol. 2: Parts 1-2.
The Illinois School Law. 1872-1877. "Act to Establish and Maintain a System of Free Schools," etc. 8vo. Springfield, 1877.
Railroad and Warehouse Commission of Illinois. Seventh Annual Report of, for 1877. Map. 8vo. Springfield, 1878.
Insurance Reports, Illinois. Tenth Annual Report of the Auditor of Public Accounts of the State. 8vo. Springfield, 1877-78.
Part 1.—Fire and Marine Insurance.
Part 2.—Life and Accident Insurance.
Canal Commissioners, Illinois. Report of. 1877. (Pamph.)
Illinois State Board of Equalization. Proceedings of. Session of 1877. (Pamph.)

From the State of Ohio :—

Laws of Ohio. 1878.
Ohio State Reports. Vols. 28-29.
Ohio Statistics. 1877.
Ohio Centennial Report.
Thirty-Second Annual Report, Ohio State Library. (Pamph.) 1878.

From the Australasian Colonies :—

Statutes of New South Wales. 1876-1877.
Proceedings of the Parliament of South Australia, and Papers. 1877. 4 vols. Adelaide, 1878.

From the Royal Colonial Institute ; through Mr. Frederick Young :—

Proceedings of the Royal Colonial Institute. 1877-1878. Vol. 9.

The number of books now in the Library, exclusive of the Official Documents of the late Province of Canada, the Confederation, and its various Provinces, is 10,658 volumes.

Respectfully submitted,

S. J. WATSON,
Librarian.

A STATEMENT

Of the case of the Province of Ontario respecting the Westerly and Northerly Boundaries of the Province (prepared for the Arbitration between the Dominion and the Province). Presented to the Ontario Legislature by command of His Honour the Lieutenant-Governor.

By Command,

ARTHUR S. HARDY,
Secretary.

Provincial Secretary's Office,
Toronto, *February 7th, 1879.*

A STATEMENT OF THE CASE

OF THE

PROVINCE OF ONTARIO

RESPECTING

The Westerly and Northerly Boundaries

OF THE PROVINCE.

Prepared for the Arbitration between the Dominion and the Province.

Ontario has the same limits as Upper Canada had; and the same limits as, west of the division line between Upper and Lower Canada, the Province of Canada had, and the Dominion of Canada had before its purchase of the rights of the Hudson's Bay Company.

In the present dispute the claim of Ontario is to the Boundaries which were officially insisted upon by the Province of Canada before Confederation, and by the Dominion afterwards. It is submitted that the demand so made was just and well-founded.

Thus, the Hon. Mr. Cauchon, Commissioner of Crown Lands, in an Official Paper, in the year 1857, claimed that the Westerly boundary of the Province extended "as far as British territory, not otherwise organized, would carry it, which would be to the Pacific; or, if limited at all, it would be by the first waters of the Mississippi which [a due west line from the Lake of the Woods] intersected, which would be the White Earth River; and this [he showed] would in fact correspond with the extent of Canada previously known to the French. . . . The southerly boundary of the British dominions, west of Lake Superior, being therefore demonstrated as identical with the southerly boundary of Canada to *some point due west* of the Lake of the Woods, the only question is as to where that point is to be found. Is it the White Earth River, the first waters of the Mississippi which the due west line intersects? or is it the summit of the Rocky Mountains, on the same principle that the *co-terminous* boundary of Louisiana was ultimately so construed?"

With respect to the Northerly Boundary, the Commissioner pointed out that "the only possible conclusion is that Canada is either bounded in that direction by a few isolated posts on the shore of Hudson's Bay, or else that the Company's territory is . . . a myth, and consequently, that Canada has no particular limit in that direction."

So also, after Confederation, in an official letter of the Canadian Ministers, Sir George E. Cartier and the Honourable William McDougall, to Sir Frederick Rogers, Bart., Under Secretary of State for the Colonies, dated 16th January, 1869, they pointed out that "the boundaries of Canada on the north and west were declared, under the authority of the Constitutional Act of 1791, to include 'all the territory to the westward and southward' of the 'boundary line of Hudson's Bay . . . . to the utmost extent of the country commonly called or known by the name of Canada.' Whatever doubt may exist as to the 'utmost

extent' of Old or French Canada, no impartial investigator of the evidence in the case can doubt that it extended to, and included, the country between Lake of the Woods and Red River. The Government of Canada therefore does not admit, but on the contrary denies, and has always denied, the pretensions of the Hudson's Bay Company to any right of soil beyond that of squatters in the territory" between the Lake of the Woods and Red River (that being the territory to which the matter which called forth the letter referred.)

In another letter, dated 8th February, 1869, also addressed to Sir Frederick Rogers, the same Ministers mentioned among other facts and inferences "which cannot [they] believe be disputed," the following :—

"1. The Charter of Charles II. (and for the present we raise no question as to its validity) could not, and did not, grant to the Hudson's Bay Company any territory in America which was not then (1670) subject to the Crown of England.

"2. The Charter expressly excluded all lands, etc., then 'possessed by the subjects of any other Christian Prince or State.'

"3. By the Treaty of St. Germain-en-Laye (1632), the King of England resigned to the King of France the Sovereignty of Acadia, New France, and Canada generally, and without limits.

"4. 'La Nouvelle France' was then understood to include the whole region of Hudson's Bay, as the maps and histories of the time, English and French, abundantly prove.

"5. At the Treaty of Ryswick (1697), twenty-seven years after the date of the Charter, the right of the French to 'places situated in the Hudson's Bay,' was distinctly admitted ; and although commissioners were appointed (but never came to an agreement), to 'examine and determine the pretensions which either of the said Kings hath to the places situate in the Hudson's Bay,' and with 'authority for settling the limits and confines of the lands to be restored on either side,' the places taken from the English (*i.e.*, from the Hudson's Bay Company), by the French previous to the war, and 'retaken by the English during this war, shall be left to the French by virtue of the foregoing [the 7th] article.' In other words, the forts and factories of the Hudson's Bay Company, established in Hudson's Bay under pretence of their Charter, and taken possession of by the French in time of Peace, on the ground that they were an invasion of French territory, were restored, by the Treaty of Ryswick, to the French, and not to the Company.

"6. By the Treaty of Utrecht, 1713, 'the Bay and Straits of Hudson, together with all lands, seas, sea coasts, rivers, and places situate in the *Bay and Straits*, and which belong thereto,' were finally ceded to Great Britain.

"7. As no definite boundary was ever established between the possessions of the French in the interior and the English at Hudson's Bay, down to the Treaty of Paris, 1763, when the whole of Canada was ceded to Great Britain, the extent of the actual possession by the two nations for some period, say from the Treaty of Utrecht to the Treaty of Paris, affords the only rational and true basis for ascertaining that boundary.

"8. The evidence is abundant and conclusive to prove that the French traded over and possessed the whole of the country known as the Winnipeg Basin and 'Fertile Belt,' from its discovery by Europeans down to the Treaty of Paris, and that the Hudson's Bay Company neither traded nor established posts to the south or west of Lake Winnipeg, until many years after the cession of Canada to England.

"9. No other or subsequent grant to the Company was ever made which could possibly extend their territorial rights under their Charter. The license to trade in the Indian territories, which they obtained in 1821, was revoked in 1858, and has not been renewed.

"10. The country which, in view of these facts, must be excluded from the operation of the Charter, includes all the lands fit for cultivation and settlement in that part of British America."

Ontario claims that the official views of the Government of the Dominion as thus expressed, should *prima facie* be carried out as between the Dominion and the Province, unless the Dominion proves that the assertions so made by its Ministers were false or mistaken, and that the claim to which they led was unfounded. The onus of proof is on the Dominion.

The opinion of Chief Justice Draper, as communicated to the Government of the

Province of Canada, 12th June, 1857, was that the decision of the Privy Council would give "to Canada a clear right west to the line of the Mississipi and some considerable distance north of what the Hudson's Bay Company claim;" though not any territory "west of the westernmost head of the Mississippi River."

But the claim of the Dominion as made in 1872, after having acquired the Company's right, and as made now, proposes to limit the Province on the west to the meridian of the confluence of the Ohio and Mississippi, variously stated as 88° 50′, 88° 58′, and 89° 9′ 27″; and to limit the Province on the north (as the Company claimed in 1857) by the height of land which divides the waters that fall into Hudson's Bay from those that fall into the St. Lawrence and its Lakes.

In support of the claim which Ontario represents, the Province relies on the arguments of the Ministers of the Province of Canada before confederation, the arguments of the Ministers of the Dominion, the legal opinion of the learned Chief Justice, and the arguments set forth in Mr. Mill's Report, and in the other papers, on the same side, which have been collected and printed for the purpose of the present Arbitration. The evidence, obtained during the present year, affords some fresh arguments in favour of the same views.

The present statement is a summary of some only of the facts and reasons which support Ontario's claim.

In 1763 France ceded to England Canada with all "its dependencies," reserving so much of what had theretofore been known as Canada as lay west of the Mississippi River; and the Treaty provided that the confines between "France and England in that part of the world shall be fixed irrevocably by a line drawn along the middle of the River Mississippi from its source..... to the sea."

Shortly after the Treaty, His Majesty, by Royal Proclamation, dated the 7th October, 1763, erected the Province of Quebec, with certain boundaries therein set forth. Afterwards, in 1774, the Quebec Act was passed, which recited that "by the arrangements made by the said Royal Proclamation, a very large extent of territory, within which were several colonies and settlements of the subjects of France, who claimed to remain therein under the faith of the said Treaty, was left without any provision being made for the administration of civil government therein." The Act therefore provided, "that all the territories, islands, and countries in North America, belonging to the Crown of Great Britain, bounded on the south by" a line, therein described, from the Bay of Chaleurs to "the River Ohio, and along the bank of the said River westward to the banks of the Mississippi, and northward to the southern boundary of the territory granted to the Merchants Adventurers of England, trading into Hudson's Bay,.....be and they are hereby, during His Majesty's pleasure, annexed to and made part and parcel of the Province of Quebec, as created and established by the said Royal Proclamation of the 7th October, 1763."

Ontario contends, that a true construction of this language requires that the line northerly from the confluence of the Ohio and Mississippi should follow the Mississippi River to its source.

That this is not only the just construction of the language employed, but was also the real intention of Parliament, is shewn further by the history and the known objects of the Bill, by the proceedings thereon in the House of Commons, and by the letter of the Right Honourable Edmund Burke, dated 2nd August 1774, to his constituents of the Province of New York, whose agent he was at the time.

So, the Royal Commission which was issued immediately afterwards, (viz.: 27th December, 1774,) to Sir Guy Carleton, as Captain-General and Governor-in-Chief of the Province, expressly describes the line from the confluence of the Ohio and Mississippi as "northward *along the eastern bank* of the said river [Mississippi] to the southern boundary of the territory granted to the" Hudson's Bay Company.

Sir Frederick Haldimand succeeded Sir Guy Carleton. His Commission is dated 18th September, 1777, and assigned to the Province the same boundary lines as the previous Commission had done.

These two Commissions remove all reasonable doubt as to the line northward being along the banks of the Mississippi to its source on two grounds:—

(1) On the ground that these Commissions shew the contemporaneous exposition of the intention of the Act, by the Ministers of the day and by their distinguished law advisers

Lord Camden was Lord Chancellor. Mr. Thurlow was Attorney-General, and Mr. Wedderburn was Solicitor-General, each of whom afterwards became Lord Chancellor.

(2) On the ground that the Crown had an undoubted right to add to the boundaries of the Province, and that if the boundaries given to it by the Commissions are not the identical boundaries which the Statute provided for, and which were thereby to continue during His Majesty's pleasure, and if the Commissions assigned to the Province a larger area than the Statute had described, the Crown had the right to make and did make the addition.

By the Treaty of Paris between Great Britain and the United States, in 1783, it was agreed that the Boundary between the two countries should be a line, therein particularly described, from the north-western angle of Nova Scotia, through Lakes Ontario, Erie, Huron, Superior, Long Lake, &c., to the Lake of the Woods, "thence through the said Lake [of the Woods] to the most north-western point thereof, and from thence on a due west course to the River Mississippi," &c.

The Commission to Sir Guy Carleton after this Treaty, (dated 22nd April, 1786,) followed this description in giving the boundaries of the Province, and assigned as its southerly boundary a line "to the said Lake of the Woods, thence through the said Lake to the most north-western point thereof, and from thence on a due west course to the River Mississippi; and northward to the southern boundary of the territory granted to the" Hudson's Bay Company.

A due west line from the point indicated would not intersect what is now known as the Mississippi, and therefore what was then known as the Mississippi, or the first tributary so intersected, the waters of which flow into the Mississippi, may be taken as intended. This question is very fully discussed in Mr. Dawson's paper. If that view should not be sustained, the alternative is the course taken under the Treaties with the United States of 1794, 1814, 1818 and 1842.

The Constitutional Act, 1791, the Act providing for the division of the Province of Quebec, recited that "His Majesty had been pleased to signify, by his Message to both Houses of Parliament, his Royal intention to divide his Province of Quebec into two separate Provinces, to be called the Province of Upper Canada and the Province of Lower Canada;" and the Act made provision for the Government of each Province after the division should take place. A Paper had been presented to Parliament previous to the passing of this Act, describing the line proposed to be drawn for dividing the Province of Quebec into two Provinces. This Paper traced the line of division into Lake Temiscaming, "and from the head of the said Lake by a line drawn due north until it strikes the boundary line of Hudson's Bay; including all the territory to the westward and southward of the said line, to the utmost extent of the country commonly called or known by the name of Canada."

On the 24th August, 1791, an Order in Council was passed, reciting among other things that this Paper had been presented to Parliament previous to the passing of the Act; and dividing the Province into two, according to the line of division mentioned in the Paper.

On 18th November, 1791, General Alured Clarke, Lieutenant-Governor and Commander-in-Chief of the Province of Quebec, issued a proclamation, in His Majesty's name, in pursuance of his instructions and of a provision for this purpose in the Statute, declaring when the division should take effect (26th December, 1791). This proclamation recited as follows:—

"Whereas we have thought fit by and with the advice of our Privy Council, by our Order in Council, dated in the month of August last, to order that our Province of Quebec should be divided into two distinct Provinces, to be called the Province of Upper Canada and the Province of Lower Canada, by separating the said two Provinces according to the following line of division, viz.:—'To commence at a stone boundary, [&c.,] running north twenty-five degrees east until it strikes the Ottawas River, to ascend the said river into the Lake Temiscaming, and from the head of the said Lake by a line drawn due north until it strikes the boundary line of Hudson's Bay, including all the territory to the westward and southward of the said line to the utmost extent of the country commonly called or known by the name of Canada.'"

That the the country then commonly called or known by the name of Canada, comprised the whole of the territory formerly claimed against the Hudson's Bay Company, and now claimed by Ontario, is established by abundant testimony.

On the 12th September, 1791, a Commission issued to Lord Dorchester, this being the second Commission issued after the Treaty of 1783. It recited the Commission of 22nd April, 1786, to the same Governor-General (as Sir Guy Carleton,) the Order in Council of 19th August, 1791, dividing "the said Province of Quebec" into two separate Provinces, by a line therein specified: "the Province of Upper Canada to comprehend all such lands, territories and islands lying to the westward of the said line of division as were part of Our said Province of Quebec." This form of expression shews that Quebec was supposed and intended to include all the territory belonging to England, and formerly known as Canada; for it is not to be supposed that there was an intention so soon to give to the Province narrower bounds than were indicated by the Paper presented to Parliament, adopted afterwards by the King in Council, and declared by the Proclamation of Governor Clarke. The change of expression was probably suggested by taking note of the language of the Treaty of 1763, by which, while France ceded to England "Canada and all its dependencies," the cession was subject to a limitation. The watershed of the Mississippi and Missouri had been the boundary line between Canada and Louisiana, and that part of Canada which was west of the Mississippi was reserved to France. So, by the Treaty of 1783, a further part of Canada was ceded by England to the United States. A description, therefore, in 1791, of the Province of Quebec, or of Upper Canada, which would purport to give to the Province all "the country commonly called or known by the name of Canada" would not have been correct. A form of expression was therefore substituted which was free from this difficulty.

The subsequent Commissions to the Governors-General of Canada, up to and including that of Lord Gosford in 1835, and the Imperial Commission to Mr. Caldwell as Receiver-General of Lower Canada, assigned the same line of division between Upper and Lower Canada.

In the seven subsequent Commissions, from the Commission to the Earl of Durham, 30th March, 1838, to the Commission to Lord Elgin, 1st October, 1846, inclusive, and also in the two Commissions to Sir John Colborne and the Right Honourable Charles Poulett Thomson, as Captains-General and Governors-in-Chief of Upper Canada, dated the 13th December, 1838, and 6th September, 1839, respectively, the line of division between Upper and Lower Canada is stated to reach the shore of Hudson's Bay, "by a line drawn due north from the head of said Lake [Temiscaming], until it strikes the shore of Hudson's Bay." The expression "shore of Hudson's Bay" obviously has the same signification as "boundary line of Hudson's Bay," but if the latter expression could be supposed to refer to some line south of the shore, the subsequent Commissions must be taken as having extended the Boundary to the shore. These two Commissions trace the Western Boundary into Lake Superior, and no further, saying nothing of the line thence westerly or northerly; but of course nobody has ever supposed that the Southerly Boundary of the Province terminated as soon as Lake Superior was reached.

[The Commissions subsequent to Lord Elgin's contain no boundary line descriptions. The other Commissions to the Lieutenant-Governors of Upper Canada which have been examined, either do not give the boundaries of Upper Canada, or give them partially only, and in such a manner as throws no light on the present question. So also the Commissions after the Union do not give the Western Boundary of the Province of Canada. The Act of Union, 1840, does not specify the boundaries of the Province of Canada thereby created, but describes the new Province of Canada as constituted of the former Provinces of Upper and Lower Canada.]

Now the Province of Upper Canada from a period long antecedent to its Union with Lower Canada, and the Province of Canada afterwards, acted, whenever there was occasion, on the assumption that the boundaries of the Province were those assigned by the Royal Commissions. Thus:

(1.) The Province of Upper Canada is known to have been in the habit, since, at all events, 1818, of issuing Writs into the territory west of the line of 89° 9½'.

(2.) In 1850, the Province of Canada, with the sanction of the Imperial authorities, entered into a Treaty with the Indians, and procured from them the surrender of the rights of the Indians in the territory as far west as Pigeon River. This territory, it may be observed, is south of the Height of Land, and was never claimed by the Hudson's Bay Company, though it is now claimed on behalf of the Dominion.

(3.) From the year 1853, the Province of Canada, continuously, and without objec-

tion from any quarter, made grants of lands, in the Queen's name, in this territory, and west of the proposed line of the Dominion. Between 1853 and Confederation no less a quantity than 35,059 acres had thus been granted west of that line. Numerous mining licenses in the same territory were granted in like manner, commencing with the year 1854, the territory embraced in them extending to Pigeon River.

(4.) In 1868 the Government of the Dominion appropriated $20,000 towards the construction of a road from the Lake of the Woods to Fort Garry on Red River; and the money was spent accordingly.

So far as relates to Ontario's Western Boundary, it is unnecessary to consider for the present purpose the argument as to the Hudson's Bay Company owning this territory: because the extension of the southerly boundary to the west is not, either by the Statute, or by the subsequent acts of the Crown, made to depend on the Company's having or not having the territory to which the western extension of the southerly boundary would bring us; and the Crown of course had the power to include part of the territory of the Company, if such was the Royal will. But the fact that this western territory had been discovered, explored, traded with, occupied and taken possession of, by the French before the Treaty of Cession adds strength to Ontario's claim, even in respect of the western boundary.

The decisions of a Lower Canadian Court, in 1818, in the cases of DeReinhard and McLellan, have been cited in favour of the line drawn due north from the confluence of the Ohio and Mississippi, and stated in the evidence in that case to be 88° 50′ or 88° 58′. The principal evidence, however, on which a different conclusion is based, was not before the Court, or referred to in those cases; and it is said also that the prisoner DeReinhard was pardoned (though clearly guilty of murder) and that the reason of his pardon was, that (notwithstanding the supposed decision of the Court to the contrary) the place of committing the murder was within Upper Canada, and, therefore, not within the jurisdiction of the Court under the Statute, 43 Geo. III., c. 138, on the authority of which the Court was acting.

In view of all these considerations, it is apparent that if there is any difficulty, on the westerly side of the Province, it is as respects the territory west of Lake of the Woods. Is the western line further west than this Lake? Is the point of commencement the point on the first tributary of the Mississippi which a line due west from the most north-western point of the Lake of the Woods strikes? Or does the western limit extend to the Rocky Mountains?

Then as to the Northern Boundary:

It has been already stated that the Quebec Act, and such of the Royal Commissions to the Governors, previous to 1838, as mention the Northern Boundary, specify for that purpose the Southerly Boundary of the territory granted to the Hudson's Bay Company; and the principal difficulty here is, that the Southerly Boundary of this territory has always been an unascertained line.

The claim of the Dominion is that the Boundary is the Height of Land already described. It is submitted for the following among our reasons, that the Height of Land is not our Northern Boundary:

(1.) Because the easterly and westerly lines assigned to the Province, by the Royal Commissions, cut through and go north of the Height of Land; and the Commission issued in 1791, and such of the subsequent Commissions as mention the Northerly Boundary, thereby declared in effect, that the Southerly Boundary of the Company's territory was not south of those points, viz.: the south shore of Hudson's Bay (there called James' Bay), and the most north-western point of the Lake of the Woods; and was north of the Height of Land.

(2.) Because the Height of Land was not claimed or suggested by the Company as being the intention of the Charter, or as being the measure of the Company's just rights, until nearly a century and a half after the date of the Charter. This fact is a practical contemporaneous exposition of the Statute by the Company themselves against their recent claim, and, having been continued for 150 years, is, without other evidence, conclusive.

(3.) Because the alleged rule that the discovery and possession of the shore of a new country, give a right to the rivers and the land adjoining the same, if a recognized rule now, was not such at the time of this Charter being granted, and ought not to govern

its interpretation. The rule is said to be founded on reason and necessity; but there is no just reason or necessity for applying such a rule in the case of a river nearly 3,000 miles long.

(4.) Because the French, from the beginning of the seventeenth century, were in possession of the territory to the south of the lands watered by the rivers flowing into Hudson's Bay, and were extending their explorations and settlements to the head waters of the rivers flowing into Hudson's Bay, and to the interior of the country. There is no sound reason to sustain a rule for giving to the discoverers of the Bay into which these rivers flow, a right to stop such explorations and settlements, in favour of discoverers (if the English were such) who did not choose to occupy the interior of the country. The rule as to rights to unoccupied contiguous territory is in such case more than sufficient to outweigh the supposed rule as to the Height of Land.

(5.) Because the ground of the recent claim is that the English were the first discoverers, and that their discoveries were followed by such possession of the territory in question as the Laws of Nations recognize as giving a title to the territory up to the Height of Land: while the fact is that it is impossible to say with certainty who were the first discoverers, nor was the alleged discovery by the English followed by possession. The voyage of Cabot, when he entered the Bay, is said to have been in 1517; and no sort of possession of any part of the Bay by the English before 1667 is pretended; being an interval of 150 years. Gilham is said to have built, in 1667, Fort Charles (Rupert), which was on the east side of the Bay. In the meantime the Bay had become known to the world; persons acting under the authority of the French Government had repeatedly visited it; had taken possession in the French King's name and set up the Royal Arms there: the French had established posts at convenient points for trade with the Indians; and had secured and were enjoying the whole trade with the Indians around the Bay. In 1627, the King gave to the Company of New France the right of trade to an extensive territory—including Hudson's Bay—both along the Coasts and into the Interior. Under such circumstances, the rule invoked by the Dominion has no application.

What then is to be regarded as the Southerly Boundary of the territory of the Company?

The language of the Charter, by reason of its ambiguity, affords no assistance in this enquiry. The validity of the Charter has always been questioned on the ground of its ambiguity, as well as for other reasons. Some legal opinions have indeed been given in favour of the validity of the Charter as respects the whole territory to the Height of Land claimed in recent times by the Company; but these opinions were based upon the Company's statement that they had "always claimed and exercised dominion as absolute proprietors of the soil, in the territory understood to be embraced by the terms of the grant."

(1.) Assuming, however, that the Northern Boundary is on one side the shore of Hudson's Bay, say between 51° and 52° of latitude, and on the other at least as far north as the most north-western point of the Lake of the Woods, say latitude 49° 23′ 55″; if these points were in the Hudson's Bay territory, the Northern Boundary would be a line drawn from one of these points to the other. We claim that our boundary is farther North than this, but it cannot be South of it.

Are these points in what was the territory of the Company? And is the Provincial Boundary therefore no further North?

(2.) If by reason of the Charter being so old, and having been acted upon in some sort, and of its validity to some extent being implied in certain statutory references to the Company the instrument cannot be treated as absolutely void, it must, as regards its construction and operation, on well-known and well-settled principles, be interpreted most strongly against the Company, and in favour of the Crown; the object of giving the charter was to encourage discoveries by the Company; and the validity or operation of the instrument is to the extent only of giving to the Company whatever of the unknown territory the Company, within a moderate and reasonable time, should occupy; and all that the Company could be entitled to was what the Company had, in this manner, acquired for themselves and for the Crown, previous to the cession of Canada in 1763 by France to England; or whatever, previous to that time, the Company had been in possession or enjoyment of as their own with the concurrence of the Crown.

(3.) The Company were certainly not entitled to any of the territory which France

owned at the time of the cession, and ceded to England; for it is preposterous to suppose that the Charter intended to grant, and did effectually grant, to the Company, as against the world, all the territory southerly and westerly of the Bay to the then unknown Height of Land (unknown to the Crown and to the Company), though such territory should be, as it was, to the extent of unknown hundreds of thousands of square miles—a third of the continent; that the Charter was intended to give, and did give, to the Company, the right to shut up this enormous territory from the Crown and from all British subjects—and from other nations also—for all time; that if the Company should do nothing to discover, settle or acquire it for a hundred years or more, nobody else could; and that any portion of it which England should, a hundred years afterwards, acquire by war with another nation, and by employment of the resources of the whole Empire, in Europe as well as America,—accrued when so acquired and was intended to accrue, to the Company, for their own private benefit.

(4.) It is clear, and indeed has been repeatedly admitted by the Company themselves, that until long after the date of the Cession, the Company had no possession of any part of the interior of the country, and that their possession was confined to certain forts on the Bay and two factories not very distant.

(5.) On the other hand, the Dominion Ministers truly affirmed in 1869, that "the evidence is abundant and conclusive to prove that the French traded over and possessed the whole of the country known as the Winnipeg Basin and 'Fertile Belt' from its discovery by Europeans down to the Treaty of Paris, and that the Hudson's Bay Company neither traded nor established posts to the South or West of Lake Winnipeg until many years after the cession of Canada to England." In fact the Company's first post—viz.: Cumberland House on Sturgeon Lake—in the vicinity of the region in question, was not built until 1774, and they did not establish any post within this tract of country before 1790.

(6.) The following facts (amongst others) were judicially found by Judge Monk, in Connolly *vs.* Woolrich, with respect to the proceedings of the French, before the Hudson's Bay Company's Charter was granted. He showed that as early as 1605, Quebec had been established and had become an important settlement; that before 1630 the Beaver and several other companies had been organized at Quebec for carrying on the Fur Trade in the West, near and around the great Lakes and in the North-West Territory; that the enterprise and trading operations of these French Companies, and of the French Colonists generally, extended over vast regions of the northern and north-western portions of the continent; that they entered into Treaties with the Indian tribes and nations, and carried on a lucrative and extensive fur trade with the natives; that in the prosecution of their trade and other enterprises these adventurers evinced great energy, courage and perseverance; that they had extended their hunting and trading operations to the Athabasca country (say 58° north latitude and 111° west longitude); that some portions of the Athabasca country had before 1640 been visited and traded in, and to some extent occupied, by the French traders in Canada and their Beaver Company (which had been founded in 1629); that from 1640 to 1670 these discoveries and trading settlements had considerably increased in number and importance; that Athabasca and other regions bordering upon it, belonged to the Crown of France, at that time, to the same extent, and by the same means as the countries around Hudson's Bay belonged to England, viz., by discovery, and by trading and hunting.

(7.) It may be added, that if the Athabasca country thus belonged to France at so early a period, so would the whole intermediate country between Athabasca and Hudson's Bay on the West, and between the Athabaska Country and the St. Lawrence on the South.

(8.) Between 1670 (the last date named by Judge Monk) and 1763 the French established posts or forts in that North-West Territory which they had previously explored, and hunted over, and traded with; namely, on Rainy Lake, the Lake of the Woods, Lake Winnipeg, Lake Manitoba, on the Winnipeg River, the Red River, the Assiniboine River, the River aux Biches, and the Saskatchewan, and so west to the Rocky Mountains, where Fort La Jonquière was established by St. Pierre in 1752. All the lakes and rivers mentioned are connected by the Nelson River with Hudson's Bay, and are in the territory which, in the following century, the Hudson's Bay Company claimed under their Charter; but confessedly they had constructed in it no post or settlement of any kind until long

after 1763. Their first post away from the Bay (other than the two factories already mentioned,) having been established in 1774, it was not until 1790 that they had any post in the Winnipeg Basin; and they did not enter the valley of the Red River until long afterwards.

9. France had also, on the northerly side of the dividing line, Fort Abbitibi, which was north of the Height of Land, and was built in 1686. It was situate at a considerable distance north of the Height of Land, and upon the lake of the same name, from which the River Monsippy flows into Hudson's Bay. The French had also Fort St. Germain, on the Albany, which was built in 1684; and still higher up on the same River Fort La Maune, established about the same period; and, to the east Fort Nemiscau, on the lake of that name, situate on the River Rupert, midway between Lake Mistassin and the Bay: this fort was built before 1695. Of none of these did the English Government or the Company ever complain. The French had also another fort on the Albany, being that mentioned in one of the memorials of the Company as having been built in 1715.

10. The Company furnished certain maps for the purpose of the present arbitration, two of which only seem of importance on either side. One of these two bears the Royal Arms and those of the Company, is of the date of 1748, and seems to have been prepared by the Company in view of the Parliamentary Enquiry of that year, and for the purpose of shewing the limits which the Company then claimed. The line which this map gives as the Company's southern boundary is considerably north of the Height of Land, even as shewn on this map; for the line is therein made to cut Frenchman's River; a river not named on this map, but corresponding with the Abbitibi River; and several other rivers shewn on the map as flowing into Hudson's Bay. The line runs to Lake Winnipeg (which is misplaced, being represented as due north of Nepigon, its southern point in the latitude of Fort Nelson), thence northerly along the easterly shore of Winnipeg, and thence northerly to Sir Thomas Smith's Sound in Baffin's Bay. The map thus demonstrates that the Company at the time of its preparation, did not claim to the Height of Land, even as the same was then supposed to be situated, and did not claim Lake Winnipeg.

The other of the two maps is Mitchell's engraved map, described as published by the author, February, 1755. This copy appears to have been much used and worn. There is on it an irregular line marked "Bounds of Hudson's Bay by the Treaty of Utrecht;" and this line may therefore be taken as shewing the extent of the Company's claim in 1755, and long after. The line is about one third of a degree north of the Lake of the Woods, and extends to the limit of the Map in that direction, being about 98° of longitude. The territory south of this line is differently coloured from the territory north of it.

It is evident that the Company have in their possession no maps which purport to give to them a larger territory than these maps do. Their claim to the Height of Land as the true intention of the Charter, and the true measure of their rights, so far from having been always made, was not thought of by the Company until more than half a century later; and was in effect negatived by the Crown in numerous Commissions to the Governors of the country.

The maps produced shew the extent of territory which the Company claimed prior to the cession of 1763.

It may be observed that on the occasions of the Treaties of Ryswick and Utrecht, the Company's claims were expressed either in the terms of the Charter, or were simply to "the whole Bay and Straits of Hudson, and to the sole trade thereof." It sufficiently appears from the early documents which emanated from the Company, that this general claim to the whole Bay and Straits was a claim to the waters and shores only, and to the exclusion of the French therefrom,—the French having been in possession of Forts on the Bay until after the Treaty of Utrecht, and the Treaty of Ryswick having in effect given them possession of all places on the Bay, except, it may be, Fort Bourbon; and that the Company's object was the trade of the Bay, and not the occupation or settlement of the country away from the shores of the Bay.

Indeed, in 1700, the Company, notwithstanding this claim, were willing to accept the Albany River as their southern boundary on the west side, and Rupert River as their southern boundary on the east side of the Bay. In 1701-2 they were content even with East Main River, and proposed it as a boundary. But both proposals were rejected by the French as being far more than the Company had any right to demand.

In 1711-12, the Company proposed a line to run from the Island of Grimington, or Cape Perdrix, on the Labrador coast, south-westerly to and through Lake Mistassin. This line did not extend beyond the south-west shore of the Lake; and though the Company made a demand for the surrender of the forts on the shores of the Bay, yet they do not appear to have made at that time any proposal as to a line on the west or south side of the Bay.

Thus the only claims and contests of the Company at this period were about the margin of the Bay.

After the Treaty of Utrecht (1713,) which gave to the British all lands, &c., "on the Bay and Straits, and which belong thereto," the Company, on the 4th August, 1714, proposed, for the first time, that the Mistassin line should go south-westerly to 49° "north latitude . . . and that that latitude be the limit;" but as to how far to the west this line of 49° was to be followed, nothing is said.

In 1719 and 1750 the Company proposed the line of 49°, but both times the proposition was rejected by the French. This line would have given to the Company a boundary greatly more limited than the Boundary of the Height of Land which began to be claimed three-quarters of a century later.

It has already been said that the Company could not take advantage of their Charter for the purpose of making any addition to their territory by exploration or settlement after the cession of 1763; but the practical result would be nearly the same if this right should be deemed to have ceased at a somewhat later date, viz.: the date of the passing of the Quebec Act, 1774, or even the date of the Treaty of 1783. The Company made no further settlement between 1763 and 1783, except Cumberland House; and it is doubtful whether its locality belongs to the Winnipeg or the Churchill system. Both the Act and the Treaty obviously require that the southern boundary should be deemed a fixed line, not liable to variation by the mere act of the Company.

These considerations are submitted as shewing that the strict legal rights of the Company did not extend beyond their Forts on the shores or in the neighbourhood of the Bay, and such adjacent territory as these Forts may have commanded; and that Ontario is entitled to have its northerly boundary line drawn accordingly.

Or, if the Company's territory is to be considered as extending beyond the Forts on the Bay and the immediately adjacent territory, their territory is not to be deemed south of the northern extremity of the Dividing Line between Upper and Lower Canada; or to exceed otherwise what England herself was entitled to under the Treaty of Utrecht, viz.: the middle line between the Forts and Settlements of the English and French; and further, is not to include a greater area than is shewn on the maps furnished by the Company, in case the middle line would give them a larger territory than these maps claimed for the Company; for the reference in the Statute of 1774 to the territory granted to the Hudson's Bay Company cannot in any view be construed as referring to a more southerly line than the Company had theretofore claimed for themselves.

Or, if there is too much doubt as to the Southern Boundary of the Company's Territory to determine with precision where such boundary was, a Northern Boundary should be assigned to the Province which would give to the Province the full territory which the Commissions to the Governors definitely provided for, and, in addition, such further territory to the north as may be just and reasonable.

O. Mowat,
Attorney-General of Ontario.

STATEMENT

Of the Returns forwarded to the Office of the Provincial Secretary, of all Fees and Emoluments received by the Registrars of Ontario for the year 1878, made in accordance with the provisions of the Statutes of Ontario, 31 Vic., cap. 20, sec. 74.

By Command,

ARTHUR S. HARDY,
Secretary.

Provincial Secretary's Office,
Toronto, 21st February, 1879.

STATEMENT of the Returns forwarded to the Office of the Provincial Secretary, of made in accordance with the provisions of Statutes of Ontario, 31 Vic., cap. 20,

OFFICE.	REGISTRAR.	Number of Municipalities in the District.	Number of Instruments registered during the year 1877.	Number of Instruments registered during the year 1878.	Amount of Fees	
					Total for Registrations under sub-sections 1, 6, 9, 12, 13.	For Searches, sub-sections 2, 3, 11.
					$ c.	$ c.
Algoma District		4	146	219	286 50	4 25
Brant	T. S. Shenston	7	1987	1975	2780 45	290 45
Bruce	John McLay	21	5116	5447	133 35	314 80
Carleton	W. H. Waller	12	2557	2313	3141 25	227 30
Dundas	C. S. Crysler (Deputy).	6	1284	1243	1646 00	61 50
Durham, East Riding	George C. Ward	4	1187	1254	1869 95	360 10
Durham, West Riding	Robert Armour	5	1063	998	1484 07	39 15
Elgin	A. McLachlin	14	3463	3459	4629 45	392 15
Essex	James Wallace Askin.	14	3422	3200	4292 15	253 55
Frontenac	R. McBean Rose	18	1731	1523	2154 80	330 36
Glengarry	Angus McDonald	4	855	640	934 15	192 66
Grenville	Pat. McRea	8	1545	1395	1924 55	89 10
Grey, North Riding	Robert McKnight	11	2962	2708	3974 80	158 50
Grey, South Riding	Thomas Lander	9	2602	2428	3901 74	33 68
Haldimand	A. S. Farrell	13	1330	1237	1648 40	398 90
Haliburton	S. S. Peck	8	238	252	352 85	8 05
Halton	Thomas Racey	9	1416	1350	1859 70	368 30
Hastings	W. H. Ponton	30	3650	3232	4310 15	351 45
Huron	James Dickson	24	6169	6094	7476 75	401 50
Kingston City	E. J. Barker	1	647	545	791 35	162 75
Kent	Peter D. McKellar	16	4924	4525	5881 80	280 76
Lambton	John Sinclair	19	5321	5118	6544 10	831 80
Lanark, North Riding	John Menzies	7	780	723	1050 80	61 40
Lanark, South Riding	James Bell	10	1108	1053	1481 15	234 30
Leeds	Ormond Jones	13	2156	1896	2593 00	118 08
Lennox and Addington	M. P. Roblin	12	1607	1434	1924 10	105 15
Lincoln	John Powell	12	2356	2087	2953 85	211 75
London City	W. C. L. Gill	1	1203	1134	1596 15	420 00
Middlesex, E. and N. Riding	James Ferguson	15	4280	4071	5334 35	430 55
Middlesex, West Riding	Stephen Blackburn	9	1530	1648	2145 45	225 75
Muskoka	J. E. Lount	13	710	769	1231 96	157 85
Nipissing	John Doran	..	20	5	7 90	1 00
Norfolk	F. L. Walsh	9	2788	2532	3247 42	351 53
Northumberland, East Riding	J. M. Grover	9	1972	1691	2317 75	153 35
Northumberland, West Riding	W. H. Eyre	5	1183	1131	1608 70	68 05
Ontario	John Ham Perry	15	2784	2516	3398 85	346 20
Ottawa City	Alexander Burritt	1	1376	1167	1744 35	591 35
Oxford	James Ingersoll	17	3602	3553	4786 50	325 75
Parry Sound District	Frank H. Foley	4	235	220	346 40	101 95
Peel	D. F. Campbell	8	1476	1668	2325 75	177 80
Perth, North Riding	Samuel Robb	8	2900	2796	3781 20	261 05
Perth, South Riding	Patrick McWhelihan	7	1607	1300	1855 60	100 65
Peterborough	Fred. W. Hamilton	19	1977	1826	2511 35	381 75
Prescott	John Higginson	9	1388	1081	1442 85	81 20
Prince Edward	Walter McKenzie	16	1353	1400	1923 50	186 10
Renfrew	Andrew Irving	24	1883	1533	2250 65	476 55
Russell	James Keays	4	1089	739	946 90	28 25
Simcoe	Samuel Lount	25	5478	5574	6523 76	.....
Stormont	John Copeland	5	1050	920	1245 75	142 15
Thunder Bay District	F. Laird	..	265	.....	.....	.....
Carried forward		..	103833	97624	.....	.....

all Fees and Emoluments received by the Registrars of Ontario for the year 1878 sec. 74, with which are contrasted Receipts of same nature in 1875 and 1876.

received under the Tariff as allowed by sub-sections 1 to 13 of section 70 of this Act.					Gross Amount of Fees proper, 1875.	Gross Amount of Fees proper, 1876.	Gross Amount of Fees proper, 1877.	Gross Amount of Fees proper, 1878.
For Abstracts, sub-section 4.	For Certificates, sub-section 5.	For Affidavits and Oaths, sub-section 10.	Special Receipts. For Abstracts, Indices, sub-section 8.	Special Receipts. For work connected with transfer of Instruments, and paid for by County Treasurer, sub-section 7.				
$ c.	$ c.	$ c.			$ c.	$ c.	$ c.	$ c.
52 85	7 85	... ..	None	None	223 25	.....	248 75	351 45
575 30	.....	2 50	"	"	3028 25	3554 95	3782 65	3468 65
503 90	7523 74	.....	"	"	6943 12	8018 14	9403 18	10208 89
826 40	78 80	12 35	"	"	4669 18	4411 35	4493 80	4286 10
189 70	10 25	9 50	"	"	1610 30	1974 58	1968 00	1916 95
461 13	2 00	.....	"	"	1862 00	2376 28	2446 60	2693 18
640 95	.....	.....	"	"	1814 80	1901 68	2210 50	2164 17
839 04	.....	.....	"	"	4886 45	5581 82	5958 70	5860 64
1065 87	93 00	7 75	"	"	5182 29	6396 76	6799 02	5712 32
215 17	2 25	2 25	"	"	2482 78	3085 90	3041 66	2704 83
107 15	12 85	11 50	"	"	1037 57	876 05	1549 97	1258 31
240 90	13 75	7 50	"	$63 00	1960 90	2239 90	2498 55	2275 80
967 50	50 00	.....	"	None	4256 90	5204 85	5238 64	5150 75
652 25	32 90	.....	"	"	3068 39	3815 00	4159 09	4620 57
296 07	1 25	9 50	"	"	2395 21	2497 41	2846 72	2354 12
97 45	9 40	12 25	"	"	....	370 85	485 70	480 00
209 90	19 45	0 75	"	"	2270 35	2468 55	2542 80	2458 10
1175 40	100 00	13 50	"	"	6256 05	6438 18	6823 75	5950 50
1485 60	77 35	2 75	"	"	8218 65	9003 10	9910 50	9443 95
64 91	3 70	.... .	"	"	970 15	953 32	1230 25	1022 71
1591 11	103 00	0 25	"	"	5354 55	5774 90	8908 40	7856 92
1329 70	... .	.....	"	"	7159 30	7550 55	9118 55	8695 60
160 10	....	6 20	"	"	1425 51	1351 63	1373 65	1278 50
55 75	23 80	1 00	"	"	1916 50	1819 40	1888 60	1796 00
411 75	6 25	2 50	"	"	3213 01	3286 95	3531 79	3131 58
256 60	7 25	6 00	"	"	2723 10	2657 10	2410 55	2299 10
561 51	.....	.....	"	"	3587 51	3794 95	3848 81	3727 11
207 50	.....	.....	"	$84 00	2133 90	2047 55	2384 53	2223 65
456 75	68 40	72 40	"	None	5531 66	6066 76	6627 65	6362 45
660 25	285 40	13 00	"	$1143 84	2754 94	3072 10	3191 45	2325 85
209 35	44 55	.....	"	None	948 79	939 95	1395 92	1643 71
0 50	0 75	.....	"	"	23 10	39 60	29 05	10 15
456 98	... .	.....	"	"	3287 11	3354 83	4607 98	4055 93
997 75	67 15	6 00	"	$287 75	3062 18	3859 65	3964 40	3542 20
584 55	....	1 50	"	None	2014 55	2287 85	2429 20	2269 80
884 30	65 25	1 75	"	"	4674 15	5028 75	5205 25	4695 35
367 70	84 00	....	"	"	4143 25	3410 70	3123 65	2787 40
989 17	30 65	19 50	"	"	6094 50	6643 12	6380 58	6151 57
35 60	7 75	18 75	"	"	478 00	622 45	539 10	510 45
548 84	25 75	.....	"	"	2201 51	2547 26	2652 38	3077 84
1002 20	63 85	1 50	"	"	3966 60	5154 10	5657 35	5109 80
532 10	159 55	.....	"	"	2552 50	2806 25	3214 75	2647 90
518 25	35 00	4 25	"	"	3415 55	3941 25	3783 25	3450 60
127 25	70 90	.....	"	"	1794 10	2480 32	2161 05	1722 20
343 85	16 75	24 30	"	"	2033 23	2279 73	2338 74	2494 50
316 80	26 00	50 50	"	"	2877 50	2836 50	3759 03	3070 50
106 80	51 45	39 50	"	"	1384 38	1591 40	1866 07	1172 90
1414 85	.....	.....	"	"	7636 80	7629 30	7702 05	7938 25
220 45	10 25	5 25	"	"	1454 35	1660 25	1764 10	1623 85
.....	.....	.....	"	"	.....	453 60	280 45	
.....	... .	.....	.....	.....	152978 02	168157 67	183777 16	173053 65

STATEMENT of the Returns forwarded to the Office of the Provincial Secretary, of made in accordance with the provisions of Statutes of Ontario, 31 Vic., cap. 20,

OFFICE.	REGISTRAR.	Number of Municipalities in the District.	Number of Instruments registered during the year 1877.	Number of Instruments registered during the year 1878.	Amount of Fees	
					Total for Registrations under sub-sections 1, 6, 9, 12, 13.	For Searches, sub-sections 2, 3, 11.
					$ c.	$ c.
Brought forward	.....	..	103833	97624	.....	.....
Toronto City	Charles Lindsey	1	5272	4880	8109 52	1020 95
Victoria	H. Dunsford	14	3412	2809	3828 00	198 25
Waterloo	D. McDougall	11	2095	1927	2426 21	121 15
Welland	D. D'Everardo	14	2010	1915	2631 50	734 92
Wellington, North Riding....	John Anderson	12	2567	3105	4086 05	111 40
Wellington, S. and C. Riding.	.....	12	3279	2056	4041 10	265 95
Wentworth	....	10	3944	3713	5212 45	339 65
York, South Riding	John Ridout.....	9	1641	2675	3842 90	481 34
York, North Riding	James J. Pearson ...	9	2627	1543	2158 05	186 70
Total	....	..	130680	122247	.... .	....

NOTE.—The Offices may be generally classified as follows :—

Receipts—

Over $10000—(1)—Bruce.
" 9000—(2)—Huron, City of Toronto.
" 8500 and under 9000—(1)—Lambton.
" 7500 " 8000—(2)—Simcoe, Kent.
" 7000 " 7500—(1)—Wentworth.
" 6000 " 6500—(2)—Middlesex (East and North Riding), Oxford.
" 5500 " 6000 —(5)—Essex, Hastings, Victoria, Wellington (North Riding), Elgin.
" 5000 " 5500—(3)—Perth (North Riding), Wellington (South and Centre Riding), Grey (North Riding).
" 4500 " 5000—(3)—York (South Riding), Grey (South Riding), Ontario.
" 4000 " 4500—(3)—Norfolk, Carleton, Welland.
" 3500 " 4000—(3)—Brant, Lincoln, Northumberland (East Riding).
" 3000 " 3500—(5)—Leeds, Middlesex (West Riding), Peterborough, Renfrew, Peel.
" 2500 " 3000—(6)—Durham (East Riding), Frontenac, Ottawa City, Perth, Waterloo, York (North Riding).
" 2000 " 2500—(8)—Durham (West Riding), Grenville, Haldimand, Halton, Prince Edward, Lennox and Addington, London City, Northumberland (West Riding).
" 1500 " 2000—(5)—Dundas, Lanark (South Riding), Muskoka, Prescott, Stormont.
" 1000 " 1500—(4)—Glengarry, Kingston City, Lanark (West Riding), Russell.
" 500 " 1000—(1)—Parry Sound District.
Under 500—(3)—Haliburton, Nipissing, Algoma District.

all Fees and Emoluments received by the Registrars of Ontario for the year 1878, sec. 74, with which are contrasted Receipts of same nature, &c.—*Continued.*

received under the Tariff as allowed by sub-sections 1 to 13 of section 70 of this Act.								
			Special Receipts.					
For Abstracts, sub-section 4.	For Certificates, sub-section 5.	For Affidavits and Oaths, sub-section 10.	For Abstracts, Indices, sub-section 8.	For work connected with transfer of Instruments, and paid for by County Treasurer, sub-section 7.	Gross Amount of Fees proper, 1875.	Gross Amount of Fees proper, 1876.	Gross Amount of Fees proper, 1877.	Gross Amount of Fees proper, 1878.
$ c.	$ c.	$ c.			$ c.	$ c.	$ c.	$ c.
.....	... .	....	.....	....	152978 02	168157 67	183777 16	173053 65
335 80	249 00	. ....	None	None	10040 24	9289 85	10148 10	9915 27
1556 71	.....	.....	"	"	4106 49	5716 17	6313 71	5582 96
98 05	10 50	4 50	"	"	2637 55	2988 80	2744 70	2660 41
638 62	7 01	2 75	"	"	3673 47	3977 52	4184 23	4014 80
1600 50	78 25	1 00	"	"	3919 50	5156 60	5713 45	5877 20
888 70	180 15	.....	"	"	5331 55	5630 35	5706 75	5375 90
1481 40	25 00	2 00	"	"	6184 05	6296 05	7619 71	7060 50
320 98	62 75	1 00	"	"	4645 64	4705 25	4445 72	4708 97
588 80	.....	.....	"	"	2516 50	2506 85	3046 50	2934 55
... .	.....	.....	.....	.....	196033 01	214425 11	233700 03	221184 21

REMARKS.

Return from Thunder Bay District has not yet been received.

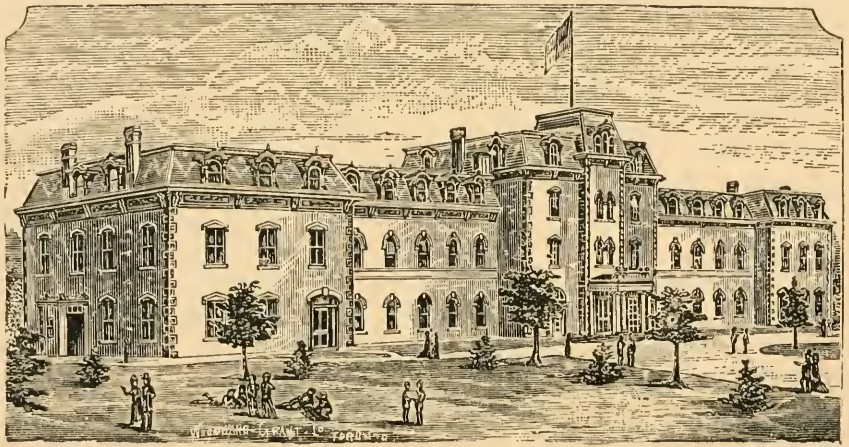
The total number of instruments registered shows a decrease of 8433 compared with 1877.

The total amount of fees received in 1878 shows a decrease of $12515.82 as compared with 1877; as compared with 1876, an increase of $6759.10,

Grey (North Riding)—The large amount of business done for the past three years is entirely owing to the capital seeking investment through loan companies, and not to work arising out of the buying and selling of lands. Wellington (South and Centre Riding)—Very few oaths and affidavits taken throughout the year, and are included in searches. Renfrew—Emoluments $689 less than last year, owing, I think, to money-lending companies curtailing their business. Essex—A decrease in the gross receipts of the office, amounting to $1086.70, took place this year, as compared with the year 1877; the cause I attribute to the comparatively small amount of money loaned in the County this year by loan companies, as compared with other years. City of Toronto—The number of registrations is diminished by growing tendency among persons who intend to become owners of building lots to purchase outside the City limits in the east and north, and especially the west, a tendency which is every year acquiring greater force. Carleton—Can assign no cause for falling off in business excepting the general depression. Waterloo—66 instruments less than last year. Prescott—The reason the fees are less than during the years 1876 and 1877 is because the several loan companies are doing less business than during those years. Lambton—The fees for affidavits and oaths are included under head of "Abstracts, Copies, &c.," in fees book, and returned under head of "Abstracts;" the amount is small, not exceeding $3.00. Ontario—The decrease in number of registrations was chiefly in the four incorporated towns and Villages of Whitby, Oshawa, Uxbridge and Port Perry; and nearly the whole decrease of fees occurred in the last six months of the year; cause, hard times. Algoma—The increase on last year is mainly due to the operations of mortgage companies during the latter part of the year. Kent—Registrar writes to Provincial Secretary under date 2nd December, 1878, that he had discovered an error in the addition of the gross amount of fees proper of $1000 in his return for 1877; the correct total amount for 1877 is therefore $8908.40.

(No. 15.)

Return from the Queen's Printer, relating to the disposal of the Ontario Statutes for 1878, and the Revised Statutes of Ontario. (*Not Printed.*)



ONTARIO AGRICULTURAL COLLEGE, GUELPH.

FOURTH ANNUAL REPORT

OF THE

ONTARIO

SCHOOL OF AGRICULTURE

AND

EXPERIMENTAL FARM,

FOR THE YEAR ENDING 31ST DECEMBER,

1878.

Printed by Order of the Legislative Assembly.

Toronto:
PRINTED BY HUNTER, ROSE & CO., 25 WELLINGTON ST. WEST.
1879.

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REPORT OF THE PRESIDENT

OF THE

AGRICULTURAL COLLEGE

GUELPH,

FOR THE

YEAR BEGINNING 1ST JANUARY AND ENDING 31ST DECEMBER,

1878.

ONTARIO AGRICULTURAL COLLEGE,
GUELPH, December 31st, 1878.

To the Honourable the Commissioner of Agriculture:—

SIR,—I have the honour of submitting for your consideration the Fourth Annual Report of the departments under my charge of the Ontario Agricultural College and Experimental Farm for the year beginning 1st January and ending 31st December, 1878. I say "the departments under my charge," and, in order that these may be clearly distinguished, allow me to enumerate, as was done in last year's Report, the various departments under which the work of the Institution is carried on. They are six in number, viz.:—

I. THEORETICAL COLLEGE INSTRUCTION.
II. PRACTICAL FARM INSTRUCTION.
III. FARM MANAGEMENT.
IV. EXPERIMENTS.
V. BUSINESS DEPARTMENT.
VI. THE BOARDING HOUSE AND COLLEGE BUILDINGS.

The second, third and fourth are under the direct charge and supervision of my colleague, Mr. Brown, Professor of Agriculture and Farm Superintendent, and for an account of the year's operations under those three divisions permit me to refer you to the able and exhaustive report of that gentleman which follows. The first, fifth and sixth constitute the "departments under my charge," and as the report just mentioned is lengthy, I will, in order to keep the aggregate number of pages below the hundred, make my summary of the year's work as brief as possible. Many, no doubt, besides yourself will glance over these pages, and some of them, for the first time reading of our Institution, may desire a short sketch of its inception and progress, but I will refer any such to the second of the appendices attached, and in the body of the report adhere closely to the year's work alone.

I. Theoretical College Instruction.

Before proceeding to describe our year's class-room work, allow me to remind you of our scholastic position when my last Report was penned—a year ago yesterday. We were then in possession of almost three years' experience, and had laid down the following course of study :—

First Year.—*Practical Agriculture, Veterinary Anatomy, Veterinary Materia Medica, Physical Geography, Chemistry, Botany, Zoology, Geology, English and Mathematics.*

Second Year.—*Agriculture and Horticulture, Veterinary Pathology, Veterinary Surgery and Practice, Agricultural Chemistry, Economic Botany, Entomology, Meteorology, Book-keeping, Levelling and Surveying, English Literature.*

School Preparatory Year.—*Arithmetic, Grammar, Geography, History, Reading, Spelling, Writing and Correspondence.*

Those subjects of study were arranged under the following four Departments of Instruction :—*Agricultnre, Scivnce, Veterinary Science, English and Mathematics.* Over each of those four departments was a Master or Professor. The first was taken by William Brown, Esq., as Professor of Agriculture; the second by E. A. A. Grange, V. S., as Professor of Veterinary Science; the third, with the exception of the sub-department of Natural History, by P. H. Bryce, M.A., as Professor of Chemistry or Science Master; and the fourth, with the sub-department just mentioned, by myself. In order to overtake the work thus laid down the scholastic year was divided into two sessions—a winter session and a summer session. Each of these again was sub-divided into two terms, so that the regular college year was sub-divided as follows :—

1. The Fall Term of the Winter Session.
   (1st October to 31st December.)
2. The Winter Term of the Winter Session.
   (1st January to 31st March.)
3. The Spring Term of the Summer Session.
   (16th April to 30th June.)
4. The Summer Term of the Summer Session.
   (1st July to 31st August.)

At that time we had some eighty pupils in attendance—eighty-seven on the roll—representatives, as will be seen by the following table, of all portions of the Province, and of different denominations therein :—

Counties.	*Pupils.*	*Counties.*	*Pupils.*
D. of Algoma	1	Lincoln	2
Brant	2	Middlesex	2
Bruce	1	D. of Muskoka	2
Carleton	2	Norfolk	2
Dundas	1	Oxford	4
Elgin	5	Ontario	5
Frontenac	4	Perth	3
Glengarry	1	Peel	1
Grey	3	Simcoe	2
Halton	2	Victoria	2
Hastings	2	Waterloo	3
Huron	1	Wellington	3
Kent	1	Wentworth	3
Lanark	4	York	8
Leeds	1		

Province of Quebec	4
Prince Edward Island	4
Nova Scotia	1
Britain	5

Religious Denominations.

Roman Catholic	2
Episcopalian	29
Presbyterian	26
Congregationalists	1
Canada Methodist	15
Primitive Methodist	1
Canada Baptist	6
Plymouth Brethren	2
Quaker	5

Remembering, therefore, the position of affairs, the curriculum, the staff, and the students, on the first of January, I will now proceed to give the history of the college work done during the scholastic year, 1878, and, in recording it, I will, under each term, give a short summary of the work done therein, followed by the details in smaller type, so that, if time presses, the latter may be read at your leisure.

I.—The Winter Term of the Winter Session.

This Term was, and always will be, the most important of the four for the work of the class-room. During this season very little can be done on a farm, and consequently little instruction in farm operations can be communicated. All the divisions, therefore, spent the greater part of the day in the school-rooms, and important as it is in itself, the subjects for study in it are commensurate with its importance. Of course they are but a continuation of what had been given during the Fall Term which is counted as commencing the scholastic year. In the department of Agriculture the second year students, having already received a fair course of lectures on soils, cultivation of crops, succession of crops, breeding, rearing and feeding of animals, and implements, were completing the curriculum, though being behind in the work of a previous year, the various breeds of animals took up a disproportionate amount of their time. The first year received a series of lectures on the breeding, rearing and fattening of animals, and on the implements of the farm. In delivering those lectures, the various animals of all breeds and the different implements were brought into the class-room, and the students were afterwards sent into the yards and shops to judge by given standards the animals, and to take to pieces and put together again the implements. In the department of Science, the students of the second year received the application of the chemistry they had already acquired to agriculture in the shape of agricultural chemistry, and of zoology to entomology in so far as the structure, metamorphoses, and habits of all insects injurious to vegetation are concerned. Of those latter we are now in possession of some four hundred specimens and each season will increase the number. In the first year the students continued their study of inorganic chemistry—especially the metals—and finished a large part of the organic chemistry. Besides this, they took up the animal kingdom as a whole, and made special study of the comparative anatomy and physiology of some three or four classes which have the most direct reference to every-day life on a farm. The experience of the term in this department but confirmed the opinion that we cannot in two years enable the class of students we receive to analyse for themselves, soils, manures, or cereals ; and showed us that, even if we had them three years, our laboratory with its present size and appliances is altogether inadequate for the purpose. In the department of Veterinary Science, the students of the second year applied the knowledge already acquired of the structure of the various farm animals to the study of all the commoner diseases to which those animals are subject, and their previous knowledge of medicine to the remedies therefor ; whilst the students of the first year were busily employed in obtaining a knowledge of the anatomy and physiology of horses, cattle, sheep and pigs. In this department, the students are greatly assisted by our possession of the mounted skeleton of a horse, with the bones of the other animals though unmounted, as well as by parts of "subjects" obtained now and then for them by the lecturer. In the department of English and Mathematics, the students took up during the term the study of political economy, especially production and

distribution, and read critically a part of Shakespeare's "King John," whilst they finished their mensuration, and became practically and theoretically acquainted with the elements of levelling and surveying. The students of the first year continued their work in English grammar and composition, and read critically a few of Gray's Odes; whilst they completed their farm arithmetic and mensuration. Both years likewise continued their work in farm book-keeping. The experience of this term especially in the case of our second year students served strongly to confirm the opinion that for cultivating the mind and fitting the pupils to perform the business of their occupation as well as to occupy their relative position in society, this department is indispensably necessary. Such is a summary of the work done in the various departments of instruction during this term. Should you desire the details, the following synopsis of the work of each lecturer will supply them:—

A.—Second Year.

Department 1—Agriculture.

(Course of 30 Lectures.)

General Economy of the Farm.—Laying out a farm—formation and management of roads and lanes; *Fences*—varieties—position—mode of construction—materials—movable fences—hurdles; *Hedges*—varieties—methods of planting—after cultivation; *Buildings*—dwellings, out-buildings, stables, barns, sheds—principles of construction—plans and specifications.

General Business of the Farm.—Capital necessary—values and prices of land, stock, implements and improvements—value of all kinds of labour—making of inventories—keeping of stock and produce registers; *Markets*—Economical laws regulating them—customs affecting them—modes of buying and selling—common laws relating to agriculture—relation of agriculture to the other industries.

Arboriculture.—Application to the American continent—different kinds of trees—occurrence, habits, uses, values—value of timber as a crop—raising of trees from the seed bed—what parts of the country should be planted—planting operations—transplanting large trees—enclosing and draining planted ground—management of trees with a view to shelter and economy—completion of the breeding, rearing and fattening of animals.

Department 2.—Science: (1) Agricultural Chemistry.

(Course of 40 Lectures.)

Agricultural Chemistry.—History of the connection between agriculture and chemistry—the food of plants—the origin and nature of soils—analysis of soils—relation of different plants to the soil—composition of different crops—chemical changes during the growth of different plants—rotation of crops—manures, special and general—the composition of farm-yard manure—nature and analysis of guanos and superphosphates—other manures—feeding of animals—foods—ingredients of foods—relation of increase to composition of food—economy of food.

(2) Entomology.

(Course of 24 Lectures)

Entomology.—Structure and physiology of insects—metamorphoses of insects—senses of insects—insects injurious to vegetation—to growing plants—to fruits—the apple, plum, pear, peach, small fruits, &c.

Department 3.—Veterinary Science.

(Course of 30 Lectures.)

Digestive system—nature—causes—symptoms and treatment of spasmodic and flatulent colic—inflammation of the bowels—acute indigestion—tympanitis in cattle—impaction of the rumen, and many other common diseases.

Circulatory system—describing the diseases of the heart and blood vessels.

Respiratory system—nature—causes—symptoms—and treatment of catarrh—nasal gleet—roaring—bronchitis—pleurisy—inflammation of the lungs, &c.

Urinal system—nature—causes—symptoms—and treatment of inflammation of the kidneys, &c.

Nervous system—nature—causes—symptoms—and treatment of lock-jaw, string-halt, &c.

Sensitive system—nature—causes—symptoms—and treatment of the diseases of the eye and ear.

Generative system—nature—causes—symptoms—and treatment of abortion—parturition—milk fever, &c.

Tegumental system—nature—causes—symptoms—and treatment of scratches—sallenders—mallenders—parasites—and other diseases of the skin,

Department 4.—English and Mathematics.

(Course of 50 Lectures.)

English.—*English Composition*—the sentence—the paragraph—rhetorical figures—their use and abuse—species of composition—qualities of style—varieties of style. Essay writing—familiar and business correspondence. *Political Economy*—wealth—labour—capital. Production—distribution—exchange—government—and the position that agriculture holds in each; relation of agriculture to all the other industries of a nation *Critical reading of Shakspeare's King John.*

Mathematics.—*Mensuration*—the mensuration of every kind of surface, including the quantity of land cultivated by various machines—the surface occupied by different crops—the measurement of solids, including the contents of tanks, ditches, wells, manure heaps—walls—the materials for roads—timber, &c. *Surveying* in its commoner branches—fields surveyed with the chain and cross—staff—heights and distances found by the use of the theodolite—levelling practised. *Book-keeping*, with reference to all kinds of farm accounts and farm business, with the methods of keeping stock-registers, sales, &c., &c.

B.—First Year.

Department 1.—Agriculture.

(Course of 30 Lectures.)

Breeding, Rearing and Feeding of Animals.—Horses suited for agricultural purposes—various breeds—breeding—feeding, and general management; *Cattle*—characteristics of the various breeds—Shorthorns, Herefords, Devons, Ayrshires, &c.—methods of breeding—cross-breeding—in and in breeding—pedigree system—rearing young stock—the fattening process—relation of food to increase—dairy management, butter and cheese management—the factory system—realization; *Sheep*—characteristics of various breeds—long wools—medium wools—short wools—breeding and management of ewe flock—winter and spring feeding rearing of lambs—relation of food to increase; wool—texture—quantity and quality—dipping and salving—quantity maintained per acre; *Swine*—characteristics of the various breeds—breeding and management of sows—stores—fattening—relation of food to increase—bacon curing; *Poultry*—characteristics of the various breeds—general management.

Implements of the Farm.—Mechanical principles entering into their construction; ploughs—harrows—cultivators—other tillage implements—sowing machines—grass seed and manure distributors; mowing and reaping machines; hay making and harvesting machines—threshing and dressing machines; barn implements; waggons—sleighs—carts; straw cutters—turnip cutters and pulpers; implements used in stock feeding—common—steaming; implements of less general use.

Department 2.—Science: (1) Chemistry—Morganic and Organic.

(Course of 50 Lectures.)

Inorganic Chemistry—continued:—*The metals*—the alkalies—sodium—potassium—soda—salt; calciu—lime—plaster; lead and its compounds; iron—its ores and manufactures; arsenic—its compounds and detection—gold, silver, platinum, tin, &c., &c.—occurence and uses—alloys.

Organic Chemistry.—Scope of the division of the science—organic compounds derived directly or indirectly from plants and animals—artificial formation of organic compounds—classification of organic bodies and their complexity—determination of the empirical and rational formulæ of organic bodies; *Wood spirit* and its derivatives—methyl compounds—chloroform—acetic acid and its compounds—alcohol and the process of fermentation—constitution of oils and fats—manufacture of soap and candles; *starch and sugar*, and the other amyloids and glucoids—manufacture of sugar—tartaric, lactic, citric and mallic acids. The flesh-formers or albuminoids and their congeners.

(2) Comparative Anatomy and Physiology.

(Course of 30 Lectures.)

Zoology.—Special study of *Infusoria, Scolecida*, and *Insecta*. General characters of the *Vertebrates*—the various orders, with morphological and physiological distinctions of each, illustrated by common examples. Special study of the families of the *Aves*, containing the insectivorous birds, and the families of the *Mammalia*, containing all the various farm animals. Comparative anatomy and physiology of farm animals.

Department 3.—Veterinary Science.

(Course of 30 Lectures.)

Anatomy and Physiology of the Domestic Animals.—Horse, ox, sheep, pig—digestive system—circulatory system—respiratory system—urinary system—nervous system—sensitive system—generative system—tegumental system.

Department 4—English and Mathematics.

(Course of 50 Lectures.)

ENGLISH.—Study of the etymological, syntactical, and rhetorical forms of the English language—history of its formation—elements entering into it—its connection with other languages—critical reading of three of Gray's odes.

MATHEMATICS.—*Arithmetic—Review of past work in arithmetic, with special view to farm accounts*—tables of weights and measures—proportion—interest—discount—partnership—square and cube roots—*Mental Arithmetic*—part of *Mensuration—book-keeping*, with reference to all forms of farm business.

Besides giving their attention to those subjects, the students had the advantage o the periodicals in the reading-room and the volumes in the library, to both of which they constantly referred. Their Literary Society, which met every Friday evening, was carried on with zeal and energy, and formed in itself no insignificant department of instruction. Not only did it serve as a motive for intellectual exertion, but it promoted an *esprit de corps* among the students. Under its auspices and at its expense, a literary and dramatic entertainment was given during the month of February, which gave the students an opportunity of slightly repaying the kindness and hospitality of their friends in the town and neighbourhood, a large proportion of whom were present. The progress of the great majority of the students was proved to be very satisfactory at the oral weekly examinations, and the written monthly and final ones. The work of this term was closed by a written examination at the end of March, extending over six days. Examination papers were given on the whole of the college work of the Scholastic Year, beginning on the 15th April, 1877, and ending on the 31st March, 1878. Those papers may be found in Appendix C., and a glance at the questions therein will give a very fair idea of the treatment of the various subjects by the different lecturers. And when I make the assertion that they are simply legitimate questions taken in the usual way from hundreds that might be asked on the work of each subject, and answered satisfactorily by over eighty-five per cent. of the students, every educationalist in the Province will be able to see at a glance that our college work is both thorough and extensive. As usual, the students who were successful in passing the examinations were arranged in three classes. Those who had answered over seventy per cent. of the questions were placed in the first class, over fifty per cent. in the second, and over thirty-three per cent. in the third. The class-list containing the names in order will be found in Appendix D. The annual closing exercises were held on the 29th March. This has now been made the Annual Closing Day—Convocation Day—if the term were applicable to us. As you were present yourself, I need not speak of it further than to say, that many local leading agriculturists, friends from the town and from a distance, and representatives of the press were present, and all expressed themselves highly pleased with the progress of the Institution. Prizes were distributed to the first in each subject; and certificates of honour were given to the first class honour men in each subject. At the close of the day's proceedings the Institution was declared by yourself closed until the commencement of the Summer Session on the 16th April.

2.—THE SPRING TERM OF THE SUMMER SESSION.

After two weeks' holidays we resumed our class-room work on the 16th of April. The place of our second year students, and of a few others who had left was filled by selections from the best on hand, and from the answers to an advertisement inserted in a few of the leading newspapers. The arrangement of the classes during this term was largely subordinated to the obtaining of practical instruction outside. The latter was made the principal object, though, as will be seen by examining the details which follow, theoretical instruction was by no means lost sight of. In order to facilitate the acquisition of the former, a man and a team were kept all the term doing nothing but instructing the lads in harnessing, driving, ploughing, harrowing, drilling, sowing, &c. &c., and this was counted as one of our classes, time being found regularly for it every day. In order to enable this to be done our classes had to be carried on under three divisions—two of them

taking the same studies, thus giving the lecturers double work; but all readily acquiesced, as it was evidently for the interests of the students. The following summary of the class-room work of each department may be found of interest. In the Department of Agriculture, the students of both years, the second a little more scientifically than the first, were being instructed in the cultivation of the various crops and the improvements of soils and lands. And the fact that during this term the theory of the class-room could be verified in the experience of the fields added greatly to the interest of the lectures; whilst the improvements, especially in draining, that we have for three years past been carrying on gave the lecturer the advantage of accompanying his theoretical instructions with practical examples in the fields. In the Department of Science, the students of the second year were obtaining a little practical insight into the various methods of analyses; as well as becoming practically acquainted with our more useful plants and common weeds in their study of Practical and Analytical Chemistry and Economic Botany. Here, however, our laboratory and other conveniencies were found altogether too meagre, and the time too brief for any thoroughly satisfactory results. The students of the first year were engaged in getting the elements of Chemical Physics, Geology, and Physical Geography, and were also obtaining a thorough knowledge of the structure and physiology of plants in their study of Botany, and thus they were laying a foundation whereon further purely technical superstructures might be reared. Here, too, the season of the year enabled the lecturer to furnish any number of specimens, and thus lend a practical interest to the work of the class-room. In the department of Veterinary Science, the members of both years were studying the various medicines in Veterinary Materia Medica, whilst to the second year was given in addition Therapeutics and a few lectures on general subjects. During this term, also, about twenty-four lectures on Horticulture—almost altogether practical—were given to the students of each year by the combined efforts of the gardener and myself. This department of instruction should as soon as possible be thoroughly equipped if we are to teach the subject at all. If it is not attended to, it had better be struck off the list, as nothing can be worse in any school or college than to make pretences which cannot be carried out. As before, I give you in small type, a synopsis of the work of each lecturer for the term.

A. Second Year.

Department 1. *Agriculture (Scientific).*

(Course of 24 Lectures.)

Cultivation of Crops.—The various crops: *Cereals*—wheat, oats, barley, &c.; *Leguminous*—peas, beans, &c.: *Roots*—turnip, carrot, potato, &c,,: *Forage or Herbage*—tare, Lucerne, clovers, grasses, flax, hemp—cultivation most appropriate for each: *Seeds*—purchasing—testing—preparing—changing: *Sowing*—kind and quality of seed—method of sowing—*After cultivation—harvesting—consumption*, or preparing for market—cost of production—laying land down to grass—management of grass and pasture land.

Improvement of Soils and Lands.—Improvement by thorough ordinary cultivation—subsoiling; *Draining*—its value—principles—various methods of draining—formation—levelling for—materials used in formation—cost and remuneration: *Manuring*—farm-yard manuring; Application, uses and properties of *artificial manures*—lime, plaster, salt, bones, superphosphate, nitrate of soda, &c., &c.

Department 2.—Science—(1) *Chemistry, Practical and Analytical.*

(Course of 24 Lectures.)

Practical Chemistry.—Chemical manipulation—the practical testing of waters, soils, foods, superphosphates, and other manures, and the preparation of the common gases, and the common acids.

Analytical Chemistry.—Qualitative and quantitative analysis, especially the analysis of soils, manures and farm produce.

(2) *Economic Botany.*

(Course of 24 Lectures.)

Systematic and Economic Botany.—Special morphology and general classification of plants, flowerless plants—mosses—ferns—fungi, &c.; flowering plants—characters of larger divisions. The orders containing important agricultural and economic plants—the cereals—grasses—roots with geographical distribution—agricultural seeds and fruits.

Department 3.—Veterinary Science.

(Course of 24 Lectures.)

Materia Medica.—Giving the preparation, actions, uses, doses, of over one hundred of the principal medicines used in Veterinary prcatice. The last fifty with the Therapeutics of all, and lectures on special subjects such as pluro-pneumonia, the rinderpect, &c., &c.

Department 4.—English and Mathematics.

(Course of 24 Lectures.)

Business correspondence—Business forms—laws relating to farming—farm book-keeping.

B.—First Year.

Department 1.—Agriculture (Practical).

(Course of 24 Lectures.)

Preparation of the Land for Crops.—Ordinary operations of tillage—ploughing, harrowing, cultivating, rolling—subsoiling, levelling—general cultivation most appropriate for the various kinds of soils.

Succession of Crops.—Importance and necessity of rotation—principles thereof—rotations suitable for various soils; crops—root, forage, cereal—treated with reference thereto.

Cultivation of Crops—The various crops; *Cereals*—wheat, oats, barley, &c.; *Leguminous*—peas, beans, &c.; *Roots*—turnip, carrot, potato, &c.; *Forage or Herbage*—tare, Lucerne, clovers, grasses, flax, hemp—cultivation most appropriate for each: *Seeds*—purchasing—testing—preparing—changing; *Sowing*—kind and quantity of seed—method of sowing: *After cultivation—harvesting—consumption*, or preparing for market—cost of production—laying land down to grass—management of grass and pasture land.

Department 2. Science (1) Geology—Physical Geography and Chemical Physics.

(Course of 40 Lectures.)

Geology.—Geological epochs—classification of rocks—structures—classsification—cleavage—foliation, dip, fault—denudation; elevation and depression of land; degradation of rocks by aqueous and atmospheric agencies—formation of soils—Canadian geology.

Physical Geography and Meteorology.—Connection between physical geography and geology—distribution of land and water—superficial configuration of Ontario—theory of wells and springs.

Chemical Physics.—Force and matter— correlation of force—properties of matter—gravity, cohesion, heat—light—magnetism—electricity; forms of matter—liquids—solids—gases.

(2.) *Structural and Physiological Botany.*

(Course of 32 lectures.)

Botany.—*Structural and physiological*—internal structure of plants—cells and vessels—construction and development of the external parts of plants—root—stem—leaf—flower—seed—fruit—Physiology of cells and vessels—chlorophyll, starch, gum, sugar chrystals, &c.- movement of fluids and gases—nutrition and respiration—reproduction—methods of fertilization—hybridization—varieties—propagation—budding—division; diseases of plants—smut—rust—mildew, &c.

Department 3—Veterinary Science.

(Course of 24 lectures.)

Materia Medica.—Giving the preparation, actions, uses, doses, of over one hundred of the principal medicines used in Veterinary practice. The first fifty taken.

Department 4.—English and Mathematics.

(Course of 32 lectures.)

English grammar—Farm arithmetic—Farm book-keeping.

By a glance at the work it will be seen that the amount was not nearly so great as was overtaken in any of the preceding terms; and even then our examinations proved that the progress made by the students was not nearly so satisfactory as before. The reason is obvious. The main energies of the students being directed to the practical instruction outside, less attention is given to the class-room work. The term was closed by a three days' written examination. Over eighty per cent. passed, though proportionately fewer obtained honours in the various subjects.

3. The Summer Term of the Summer Session.

At the close of the spring term, on the 30th June, some twenty-three students were allowed to return to their fathers' farms, on satisfying the Board that they would there be obtaining the practical instruction which alone is given in the summer term. Thus, only some fifty-four were left, but this number was more than ample to do all our summer work. For in this term, work alone is the order of the day. The class-rooms are closed for the two summer months of July and August, and the students spend their whole time, ten hours a day, at work or training in the fields, the yards, the garden, or the shop. It will be seen therefore that, properly speaking, there is only nine months' school work out of the twelve, so that in this respect our institution corresponds with all the other educational institutions in the Province. During the summer months, the place is usually visited by strangers from all parts of the Province, as well as by foreigners, and in this way, much valuable information is gained on both sides. During this season, however, we were favoured with especial visits from three different parties. In the first place, came a body of some three hundred yeomen from the Counties of Elgin, Oxford and Middlesex, under the auspices of the Elgin Division Grange. A very pleasant day was spent, and the party left many kindly recollections behind it. The second was paid us by the Canadian Press Excursion and the representatives of the press proverbially courteous and obliging, expressed themselves as highly pleased with all they saw. And lastly, the North American St. George's Union spent a half-day with us in the latter part of August; and many of the visitors from various parts of the United States expressed the opinion that we were on a better and sounder basis than any of their own agricultural colleges. The work of the term was closed upon the 29th of August by our annual athletic sports and harvest home, which were witnessed by hundreds of friends from the neighbourhood as well as by many of the parents from a distance. This is now one of the red-letter days in our calendar—the gala-day of the year. And the events of the term, indeed of the session, proved that the young men worked all the better, physically and intellectually, when the *esprit de corps* is sustained by the formation and maintenance amongst themselves of cricket clubs, base-ball clubs, foot-ball clubs—the due development of all the manly exercises which are usually understood by the term athletic sports. On the following day, 30th of August, the College was closed until the commencement of the winter session upon the 1st day of October.

4. The Fall Term of the Winter Session.

In September Mr. P. H. Bryce, M. A., Professor of Chemistry, resigned in consequence of his determination to pursue the study of medicine. During his two years' residence with us Mr. Bryce proved himself an energetic and painstaking teacher, as well as a willing assistant in every department requiring his aid. During those two years he had been able to apply the scientific knowledge which, as Gold Medallist in Science in the University of Toronto, he had already obtained, to the study of agriculture in various ways, and was thus receiving and giving a knowledge of scientific agriculture which was even then of great value, and promised in the future to be of still greater importance to ourselves and to the advancement of scientific knowledge of the conditions of agriculture in our climate in general. But, as I have already pointed out in previous reports, no man will remain unless inducement in the way of a gradually increasing salary is held out, or the salary made somewhat equal to that which is paid elsewhere. I refer you to the last appendix for a comparison. Our salary will bring a man but it will not keep him; and it is only asked that this institution be placed at least on a par with our other educational institutions in this respect, or the inevitable result will be the same as in the last two cases—the resignation of the occupant of the position, and the training of a new man to fill it. At the beginning of October, Mr. James

Hoyes Panton, Medallist in Science, and McMurrich Medallist of the University of Toronto, a teacher of ten years' standing, was appointed Professor of Chemistry or Science Master—the position rendered vacant by Mr. Bryce's resignation. His energy, zeal and success so far have fully justified the selection.

On the 3rd of October we opened with a roll of eighty-four students. Two were sent home, and, upon advice, one or two returned to the Public School again, but, with those exceptions, the second list in Appendix A contains the names of our students for this session. The following table will give an idea of the parts of the Province from which the pupils came, and the religious denominations to which they belong. It will be noticed that all sections and all sects are pretty fairly represented :—

Counties, &c.	*Pupils.*	*Counties, &c.*	*Pupils.*
Algoma	1	Montreal City	7
Brant	3	Nova Scotia	3
Carleton	1	Norfolk	2
Cardwell	1	Oxford	3
Durham	1	Ontario	2
Elgin	1	Prince Edward	1
England	1	Prescott	1
Essex	1	Perth	2
Frontenac	1	Wellington	7
Grey	2	Quebec P.	3
Haldimand	1	Simcoe	2
Halton	3	Toronto	6
Hamilton City	3	Victoria	1
Huron	3	Waterloo	1
Kingston City	2	Wentworth	4
Lanark	1	York	8
Lincoln	2		—
London City	2	Total	84
Lambton	1		

RELIGIOUS DENOMINATIONS.

Presbyterian	24
Episcopalian	23
Canada Methodist	17
Canada Baptist	10
Congregationalist	6
Quakers	2
Roman Catholic	1
Primitive Methodist	1

The work of the session went on steadily from the 3rd of October until Christmas. In the Department of Agriculture, the pupils of the second year had their attention turned to many miscellaneous subjects relating to the general economy and business of the farm, especially in the methods of carrying on experiments, thus making a slight re-arrangement of the curriculum; while those of the first year were engaged in the study of the characteristics of the various breeds of cattle, sheep, pigs, and poultry, together with the breeding, rearing, and feeding of farm animals. In the Department of Science the students of the second year finished organic, vegetable, and animal chemistry; and studied the important subjects of weather and climate, under the head of Meteorology, those of the first year entered upon inorganic chemistry, and reached the metals; whilst, in another sub-department they were studying Natural History, under the form of comparative anatomy and physiology of invertebrate animals, especially the insects. In the Department of Veterinary Science, the first year were acquiring a knowledge of the anatomy and physicology of the domestic animals; whilst the second year were applying that knowledge in their case already acquired to a study of the diseases to

which said animals are subject. In the last Department of English and Mathematics, the pupils of the second year were studying the history and analysis of the English language and finishing mensuration and mechanics. The time of the first year was principally taken up with a review of past school work. So many of those entering have for a period of time been away from school, that it is absolutely necessary to undertake a thorough review before the class, as a whole, can be carried forward in English and Mathematics. The following synopsis of the work of each department will give a better idea of the work in detail.

A.—Second Year—(regular course).

Department 1—Agriculture.

(Course 20 Lectures.)

The following is laid down as the course, but it was slightly re-arranged to suit the lecturer, who gave several lectures on the general economy and business of a farm, and the modes of conducting experiments, as well as a part of the following :—

Soils.—Origin, distribution, physical properties and classification of soils; *Reclamation of lands*—forest clearing—stumping, stoning, fallowing, &c.

Preparation of the Land for Crops.—Ordinary operations of tillage—ploughing, harrowing, cultivating, rolling—subsoiling, levelling—general cultivation most appropriate for the various kinds of soils.

Succession of Crops.—Importance and necessity of rotation—principles thereof—rotations suitable for various soils : crops—root, forage, cereal—treated with reference thereto.

Improvement of Soils and Lands.—Improvement by thorough ordinary cultivation—subsoiling; *Draining*—its value—principles—various methods of draining—formation- levelling for—materials used in formation—cost and remuneration; *Manuring*—farm-yard manuring; Application, uses and properties of *artificial manures*—lime, plaster, salt, bones, superphosphate, nitrate of soda, &c., &c.

Department 2.—Science.—(1) Chemistry.

(Course of 30 Lectures.)

Organic Chemistry.—Scope of the division of science—organic compounds derived directly or indirectly from plants and animals—artificial formation of organic compounds—classification of organic bodies and their complexity—determination of the empirical and rational formulæ of organic bodies; *Wood spirit* and its derivatives—methyl compounds—chloroform—acetic acid and its compounds—alcohol and the process of fermentation—constitution of oils and fats—manufacture of soap and candles; *starch and sugar* and the the other amyloids and glucoids—manufacture of sugar—tartaric, lactic, citric and mallic acids. The flesh-formers or albuminoids and their congeners; *Essential oils and resins*—varnishes—petroleum; *Vegetable Alkaloids*—quinine—strychnia—aniline dyes; urea and uric acid; *Animal Chemistry. Vegetable Chemistry.* Portion of this was review.

(2)—Meteorology.

(Course of 20 Lectures.)

History and scope of meteorology —weight of atmosphere—how ascertained—*barometer*—various kinds—manipulation; *Temperature*—how observed and calculated—*thermometer*—varieties, Fahrenheit, centigrade, &c.—use of each—manipulation: solar and terrestial radiation -moisture of the atmosphere; mists—fogs—clouds; rain—snow—hail; winds and storms; miscellaneous—causes affecting the climate—influence of climate on vegetation.

Department 3.—Veterinary Science.

(Course of 30 Lectures.)

Veterinary Pathology.—Osseous system—giving the nature, causes, symptoms and treatment of the various diseases of bone as splint—spavin—ringbone, &c.

Muscular system—nature—causes—symptoms—and treatment of flesh wounds, &c.

Syndesmology—nature—causes—symptoms—and treatment of bog spavin, curb and other diseases of joints.

Planitar system—nature—causes—symptoms—and treatment of corns, sand crack and other diseases of the foot.

Odontology—describing the diseases of the teeth; also the mode of determining the age of the animal by the same.

Department 4.—English and Mathematics.

(Course of 40 Lectures.)

ENGLISH.—Study of the etymological, syntactical and rhetorical forms of the English language—history of its formation—elements entering into it—its connection with other languages.

English composition—the sentence—the paragraph—rhetorical figures—their use and abuse—species of composition—qualities of style—varieties of style. Essay writing—familiar and business correspondence.

MATHEMATICS.—*Mensuration*—the mensuration of every kind of surface, including the quantity of land cultivated by various machines—the surface occupied by different crops—the measurement of solids, including the contents of tanks, ditches, wells, manure heaps, walls—the material for roads, timber, &c.

B.—FIRST YEAR.

Department 1.—Agriculture.

(Course of 30 Lectures).

BREEDING, REARING AND FEEDING OF ANIMALS.—Horses suited for agricultural purposes—various breeds—breeding—feeding, and general management: *Cattle*—characteristics of the various breeds—Shorthorns, Herefords, Devons, Ayrshires, &c.—methods of breeding—cross-breeding—in and in breeding—pedigree system—rearing young stock—the fattening process—relation of food to increase—dairy management, butter and cheese management—the factory system—realization: *Sheep*—characteristics of various breeds—long wools—medium wools—short wools—breeding and management of ewe flock—winter and spring feeding—rearing of lambs—relation of food to increase; wool—texture—quantity and quality—dipping and salving—quantity maintained per acre: *Swine*—characteristics of the various breeds—breeding and management of sows—stores—fattening—relation of food to increase—bacon curing: *Poultry*—characteristics of the various breeds—general management.

Department 2.—Science (1)—*Chemistry.*

(Course of 50 Lectures.)

INORGANIC CHEMISTRY.—Scope of chemistry—atomic theory—chemical affinity—the *non-metallic* elements—oxygen—hydrogen—water—its nature—occurrence—functions—states, and decomposition—nitrogen—the atmosphere—ammonia—its sources and important uses—oxides of nitrogen—nitric acid and its importance to plants—sulphur and its compounds—sulphuric acid, its manufacture and uses—phosphorus—the agricultural importance of phosphoric acid—carbon—silicon—flint—sand—silicates—chlorine—bromine—iodine—&c.

(2.) *Natural History.*

(Course of 30 Lectures).

COMPARATIVE ANATOMY AND PHYSIOLOGY.—Nature of life—vital force—difference between animals and plants—difference between different animals—morphology and physiology—definition of species—origin of species—classification—characters of the general classes and orders of the *Invertebrates*, with examples. Special study of *Infusoria*, *Scolecida*, *Annelida*, and *Insecta*. General character of the *Vertebrates*—the various orders, with morphological and physiological distinctions of each, illustrated by common example.

Department 3.—Veterinary Science.

(Course of 30 Lectures.)

ANATOMY AND PHYSIOLOGY OF THE DOMESTIC ANIMALS.—Horse—ox—sheep—pig. Osseous system—muscular system—syndesmology—planitar system—odontology.

Department 4.—English and Mathematics.

ENGLISH.—*Review of past school work* and completion of English Grammar (common).

MATHEMATICS.—*Arithmetic—Review of past work in arithmetic, with special view to farm accounts*—tables of weights and measures—proportion—interest—discount—partnership—square and cube roots—*Mental Arithmetic.*

The work thus sketched out was carried on very satisfactorily, and the students made steady progress and gave to their studies the best of attention, except for a couple of weeks in November. The exception is easily explained. In May, the students formed them-

selves into a Field Battery of Artillery, which was gazetted by the Dominion Government as the "Ontario Field Battery of Artillery." When formed, it was on the understanding that whilst an hour's drill for five days out of twelve would be allowed, all camping was to be done in the students' own time—their holiday month of September. Owing to various circumstances, however, that arrangement could not this year be carried out, and on the urgent pleading of the students and officers of the Battery, the afternoons of twelve days in November, after the rush of the farm work was over, and frost was setting in, were allowed for camping out. Of course, the class-room studies were not interfered with—only the time usually spent in work was used; but yet the attention was taken, to a considerable extent, away from the studies for two weeks. Hereafter the camp will be in September. On the whole, however, the formation of a Field Battery of Artillery, comprising 74 non-commissioned officers and men from amongst our students, bears good fruit in straightening up lads fresh from the farm, in disciplining those newly from school in cities, and in forming an *esprit de corps* amongst the mass of the students. With the exception thus explained, the term has been a very successful one; and at the Christmas Terminal Examinations, an average of forty per cent. of the students obtained honours, whilst one in the second year, eight in the first, and two in the preparatory year, were all that totally failed to pass the examination as a whole.

Such has been the result of the class-room work during the past twelve months. The results of the instruction have, upon the whole, been satisfactory. So far as the course of study is concerned, there are many things which will require re-arrangement. Some subjects will need to be shortened, others to be lengthened. Some will require to be largely recast, others will be best as they are. But our experience has confirmed the opinion that the curriculum is, so far as it goes, upon a correct basis. Time will alter it in many ways, and experience will shape its details to suit the wants of the class of pupils, which our Province can send to our halls, but its main features will remain as at present until the staff is increased and the Department of Agriculture divided into four parts. So far as the pupils are concerned, the intellectual progress has been in many cases very marked, in others moderately so, and in some few, there has been little or none. And this may ever be expected, when the variety of sources from which our students are drawn is taken into consideration. In the first place, we have farmers' sons. Some of these come directly from the Public Schools, at the age of fifteen or sixteen, some few have attended High Schools, and many more having reached the age of nineteen or twenty, have not been at school except a month or two in winter, for three or four years. In the second place, we receive lads from towns or cities, whose parents intend them to be farmers, and whose inclinations lie in that direction. These have generally attended High Schools, and been in the second, third or fourth divisions thereof. And in the last place, we have always had a few from Britain and the other Provinces, who intend purchasing and settling here. These are not admitted except already in possession of a good education. Our first year can, therefore, shew a greater variety of intellectual attainments than a similar division in any of our schools or colleges; and not only are the intellectual attainments more varied, but the mental ability is likewise more diverse. It is a well-known fact, that many estimable people have the idea that any lad will make a farmer, and, if one of the family be only moderately endowedi, ntellectually, it is straightway proposed to make a farmer of him. Hence, we have a greater amount of respectable mediority than is to be found in the majority of educational institutions, though we have likewise a fair proportion of really clever lads. Were we, however, not pretty strict in exacting our present standard of entrance, low as it is, we would be afflicted with a large proportion of downright stupidity. If, however, a few of that kind enter, the first terminal examination extinguishes them; and it is just as well, for they will never be any credit to us. Farming is just as important a place for intellectual ability as is any other occupation, and though, in consequence of the fact that nature and Providence are kinder than man, stupidity may not starve as soon at this as in some other callings, yet, I think every sensible man will commend us for refusing to put a stamp on the article. Assuming, therefore, this variety of intellectual attainment and mental ability as a basis, the result of our year's work in the class-room, so far as our students are concerned, has been the successful communication of a large amount of instruction to a comparatively large number of pupils. So far as the teachers are concerned, the year has been one of steady work. Each has striven to do his best in his own department, and though our facilities are not what we would wish, yet the most judicious disposal possible

has been made of the means at hand. I have already borne testimony to the efficient manner in which the science masters, Mr. Bryce and his successor Mr. Panton have performed the duties of lecturers and teachers in this department. In that of Veterinary Science, Dr. Grange has always proved himself an able lecturer, and each successive year but adds to the value of his services in this department. As this report is the conjoint product of Mr. Brown and myself, I will stop here—our modesty forbids us to refer to our own ability or success in our respective departments; but in concluding this record of the year's work in the class-room, I would simply say, that the utmost harmony has prevailed, and the teachers have all worked with, and assisted each other, in seeking the thorough education of the pupils, and in advancing to the utmost of their ability the "Theoretical College Instruction."

Before passing to the next division, it may not be out of place here to notice a few of the objections that were brought against us in this division of our work. In the first place, it is asserted that our students themselves do not belong to the class of farmers, are drawn from towns or cities, and will never make farmers. Now the plain answer to this objection is, that our students are drawn from all classes of the community, as undoubtedly any ratepayer in the Province, no matter what his occupation, has a perfect right to place his son within our walls if he can be accommodated. No sooner have they entered than they sign a declaration of their full intention in accordance with their parents' wishes of becoming farmers, whilst during the time of their residence with us their whole attention in class-room and farm is turned towards that occupation. What more can we do? But let the matter be closely examined in the light of facts. During the year 1878, the names of 146 students were entered upon our College Roll. They will be found in Appendix A. Out of the number mentioned, 94 are directly from the farm or garden, and more than half of the remaining 52 have either already farms of their own, or the means to purchase them. Since the opening of the institution 163 have left us, after remaining a shorter or longer period of time; and of that number 121 are known to be following Agriculture, Horticulture, or the Veterinary Art. In the face of these facts, any who may have been led to put any faith in the objection mentioned will at once confess that they have been labouring under misconception. Again I have seen it written that our students were drawn largely outside the Province, and when from inside unequally from all parts; indeed, I have seen it stated that they came largely from the County of Wellington. Now here to commence with, I acknowledge that a few have systematically been admitted from the sister provinces or from Britain, but these have all signified their intention of settling in Ontario, and being possessed of a small capital will, if properly educated, form a desirable addition to our citizenship. I say systematically admitted, because for every one admitted ten could easily have been procured. Take, for instance, the City of Montreal. In the spring I admitted, without consulting you, seven from that city, on the ground that from its intimate business relations it should be considered a part of Eastern Ontario. In doing so, I was wrong, no doubt: your objections are unanswerable; but what I wish to point out is that from that city alone, I have this year filed 26 applications. I cite this as an example of the correctness of my position when I affirm that any admissions from outside have been carefully guarded and handled with a single eye to the benefit of our Province. The following table showing the residence of the pupils and their religious denominations will effectually answer the remainder of the objection.

Counties, &c.,	*Pupils.*	*Counties, &c.,*	*Pupils.*
Algoma	1	Halton	4
Brant	6	Haldimand	2
Carleton	4	Hamilton City	3
Cardwell	1	Huron	4
Dundas	1	Ireland	1
Durham	1	Kingston	2
Elgin	5	Kent	1
England	3	Lanark	3
Essex	1	Lincoln	3
Frontenac	4	London City	2
Grey	3	Lambton	2
Hastings	1	Leeds	1

Counties, &c.,	*Pupils.*	*Counties, &c.,*	*Pupils.*
Middlesex	1	Quebec Province	4
Montreal	7	Simcoe	2
Muskoka	2	Scotland	1
Nova Scotia	3	Toronto	10
Norfolk	2	Victoria	2
Oxford	6	Waterloo	4
Ontario	6	Wentworth	4
Peel	4	Wales	1
Perth	3	Wellington	10
Prescott	1	York	9
Prince Edward	1		
P. Edward Island	4	Total	146

Religious Denominations.

Episcopalian	48
Presbyterian	41
Canada Methodist	29
Canada Baptist	13
Congregationalist	6
Quakers	3
Roman Catholic	2
Primitive Methodist	2
Plymouth Brethren	2
Total	146

Again, I have heard it said that our students are mainly drawn from the wealthier classes, and preference in work or instruction is given to that class. What I have already stated will answer the first part of this allegation. The most of the 94 mentioned, it is true, are the sons of farmers, fairly blessed with property, but that is all. Of the remaining 52 a proportion are the sons of wealthy parents. So much for the first part of the statement; and every one of our students would laugh the second to scorn. We know absolutely no difference between our pupils here. As in every school or college in the country the son of the richest rubs shoulder to shoulder with the son of the poorest, and snobbery would be put down by themselves as would partiality by us, with an iron hand. Any educationalist knows that such a statement must be untrue, for we could not exist as a school for a single month except upon the basis of perfect impartiality. So much for objections against the lads themselves.

Again objections are raised against our curriculum, which I am certain arise from a misconception of our present work and future designs. It is said, in the first place, not to give sufficient prominence to practical instruction. In answer, I must simply say that it is a curriculum,—that is a course of study,—and that the practical instruction is arranged under the heading of a "course of apprenticeship." To each, exactly the half of the student's time is devoted. In a working day of ten hours on an average the year round, the pupils spend five in the class-room and five in the fields or yards, garden or shops. A glance at our time-table which is given as the third part of Appendix B, will suffice to show the fact. I have included the one I drew up yesterday for the term opening in a couple of days, but that will show conclusively that even during the winter session, as great an opportunity is given to the pupil to obtain the outside practical training as to get the inside theoretical instruction. The former is not of a character which will allow it to be made the subject of written examinations, and the work done cannot thus be so easily shown. Nor is it possible to draw it up into divisions, classes, or departments in such a manner as the work of the class-room. But although it is not so easily shown it is there nevertheless. The explanation of the mode of carrying out the system of apprenticeship will be found in Mr. Brown's Report under whose jurisdiction it comes; but

it will be seen that the time allowed is as great, the staff equal in number, and the facilities greater in the "course of apprenticeship" than in the "course of study."

In the second place, it is said that our curriculum is too literary and scientific, and not sufficiently practical. This objection is a two-fold one, the latter part of which is correct, the former totally wrong. We teach no sciences but those closely connected with agriculture, in teaching them that connection is always kept in view, and in our second year's course every one of them is applied to agriculture. In order to understand the second it is absolutely necessary to be in possession of the first; and I hope that we may never adopt the American system of talking learnedly about applied sciences before the elements of the pure sciences themselves are thoroughly understood. If the student is to know the materials he works with—the soil, the plant, and the animal—the scientific portion of our curriculum may be lengthened or extended, but cannot be shortened or curtailed. Again, the literary training given is very meagre, and does not carry our pupils beyond the third division of a High School, though the subjects are more practical and technical. If any student of ours is to be an intelligent citizen or able to do his business, I cannot conceive how our literary training is to be in the least degree shortened. But though the first part of the objection is wrong, I have said the second is correct—viz., "that the curriculum is not sufficiently practical"—the accent being on the word "sufficiently." And yet I will not cry *peccavi*. Allow me to explain. If reference is made to the Report of the Provincial Farm Commission upon which our place is based, it will be seen that instead of one man lecturing on agriculture and horticulture, the subject was divided into four departments, each of which was to be presided over by a separate officer. There was to be a field director, superintending and lecturing upon the field department; a live stock director, superintending and lecturing upon the live stock department; a mechanical director, superintending and lecturing upon the mechanical department; and a horticultural director, superintending and lecturing upon the horticultural department. When those recommendations are carried out, and we have four men where now we have one; four departments in the same subject instead of one, and four times the teaching in practical agriculture and horticulture that we have now, given to four times as many students in a course of three years instead of two, I will guarantee that this objection has for ever vanished. May that day soon come! but until its arrival we may be pardoned if we "do as we can and not as we would." So much for the common objections against the curriculum.

Lastly, it is said that our staff is too large. That is, certainly, a matter of opinion—depending largely, if not altogether, upon the view taken of the aims and objects of the institution. Allow me, in this connection, to sketch what I consider the staff ought to be:

President,	Field Foreman,
Field Director,	Live Stock Foreman,
Live Stock Director,	Gardener,
Mechanical Director,	Carpenter,
Horticultural Director,	Blacksmith,
Science Master,	Bursar,
English Master,	Steward,
	Matron.

It is unnecessary to add that I am not of those who consider the present staff too large.

In conclusion, I may be allowed to say I am perfectly aware that those raising the last few objections are frequently our best friends; and so long as opinions differ, criticism if just, however severe, is absolutely necessary, and in the case of a place like ours, the indefeasible right and privilege of every citizen; therefore, of course, it will be perfectly understood, that in attempting, successfully or unsuccessfully, to answer objections, I have totally forgotten individuals.

II. The Boarding House and College Buildings.

The College buildings are shewn in the cut which accompanies this, and which as it is already made and paid for, may as well be used here. Of the range of buildings, the right centre and the top story of the main building have yet to be built. The wing to the right

forms the School proper—two stories and a mansard. The remainder is what is called the boarding-house, with the exception of the ground and second floor of the wing to the left, which forms a residence for the Professor of Agriculture.—Mr. Brown. In this boarding-house, we have in all sixty rooms:—a reception room, an office, three rooms for myself and the other resident officers, thirty-four for the students, seven for the matron and her servants, a sick room, a linen room, two wash-rooms, a bath room (only one), linen room, dining room, kitchen, pantry, scullery, laundry, store room, engine room, reading room and library. Owing to the peculiarity of our subjects of instruction, and the earliness and lateness of our hours, it is almost indispensable that all our pupils should be residents, and hence the necessity for its being what may be called a Boarding College. We have quite a number of such in our own Province, whose example can be taken as precedents, though a large proportion of them have within their walls a class of pupils much younger than ours are; for as we take none under fifteen, the class technically known as "schoolboy" is a small one. What then is the custom of those institutions? In the first place there is usually a matron taking charge of the kitchen, laundry, dining room, and bed rooms. If the school be at all large, and women servants are engaged, there is usually under her a housekeeper. And it may here be incidentally remarked that it is commonly considered preferable, though more expensive, in a Boarding College like ours, with our class of students, to have men servants. Besides the Matron, there is invariably a Steward, whose duty it is more especially to furnish the supplies, take charge of the stores and have an active supervision of the boarding department proper of the College. Over both, taking charge of the general conduct and morals of the pupils, whilst in the House, is a Resident Master, known in England as Dean, and in Scotland as Rector. Neither the Scotch nor English term is common with us—we usually style the officer, the Resident Master. Of the two, the English one of Dean is the best known, and hence when the Scotch term of Rector was first used with this meaning attached it gave rise to general misconception on the part of any interested, and provoked many a laugh at my expense. It would be just as well in this little matter to conform to the customs of our country, and drop the Scotch term, using the Canadian one of Resident Master. Assisting him in that duty is usually two or three of the other masters; for it can easily be seen that, however light his day's work may be, no one can spend evening after evening, Sabbath and Saturday, in taking charge of lads. For example, in Upper Canada College, which has about the same number of resident pupils that we have, there used to be three—now, I think, four. Such is the usual management, founded on the experience of nearly a quarter of a century of this department of many of our schools and colleges.

Let us now turn to ourselves. In our formation we were classed as a Public Institution along with Asylums, Prisons, and the Institutions for the Deaf, Dumb and Blind. In one sense it was a correct classification, as the Province undertook to pay the board of each pupil, and give him at the end of the year a bonus of $50. Though he worked, it was for the purposes of instruction, and that required overseers, whose salaries were more than equal to the value of the labour. If not, the farm could never by unskilled labour be called a "model" one. That is plain to any one. Hence the plan at first adopted savoured largely of charity, and in this light and the consequent one of the public accounts, it was a charitable institution. But that view is a strained one, and the plainly correct one was to take it as it is—an educational institution. Once established, however, it was impossible to undo it, except in a gradual manner. It is being done, the bonus is now on the other side, and this year we expect a revenue of a thousand dollars, at least, from the students. In another year or two I hope only a small grant may be needed for this purpose. Whatever the classification, however, the fact remains the same that we are a school or college, and are to look for precedents to such institutions, and not to charitable ones, however excellent in their own sphere, for I can assure you that all our students are in full possession of every one of their faculties and powers, both of body and mind. We may, therefore, expect that in carrying on the Boarding House attached to our College we will have to follow the plan commonly adopted, if we are to succeed. I have striven to work up to that plan. When first established the House was small, and the Resident Master, known as the Rector, was to do a part of his own proper work, the work of the Steward and that of the Bursar. I say a part of his own work, for he was not required to teach. Had the thing been carried out the chances against success were ten to one. It was to this position, first of all, that I was appointed.

But a chain of circumstances forced me to assume all the offices of the School and Boarding House, not to speak of the Farm. Of what was wanted in the former I was ignorant, but in a few months I had gathered together the most of the Reports of the German and American Agricultural Colleges, and with that information, an educational experience of ten years, a liberal education, and an intimate knowledge of the various classes of our Canadian community, especially the agricultural class, I drew up the course of study for our college, a tentative one, to be supplanted by a complete curriculum after five years of a preparatory term, ending this year. About the boarding house, however, I never had a moment's doubt. What was needed was a matron, a steward, a resident master—one of the masters of the course—and one or two of the other masters assisting him. Besides these there was required for the boarding house and the whole institution, a bursar. As the boarding house could at first only hold forty, and as the institution was struggling for existence, during three years I undertook the duties of resident master, without assistance, bursar, steward, and head master of the school as well. And those were simply routine duties. No doubt I was a fool in thus doing the work of three men, but in looking back, I cannot see how we would otherwise have lived at all. The three years passed away, and last year a bursar was appointed. This year I ask for an assistant English master, who may also be an assistant resident master. And next year, when, I hope, our curriculum will be firmly established and our accommodation raised to one hundred and twenty, there should be a steward appointed, and if the science master is required, also to be an assistant resident master, the college, so far as the boarding house is concerned, will be upon the basis which, in the case of our other boarding colleges, has been proven to be the only sure guarantee of success. The women servants may have to be discarded for men, or if not a housekeeper may have to be appointed, but what I have indicated is the very best that can be done if this department is to be made efficient. But this has come, and should still come by degrees. Just as I have been willing during previous years to do anything that the place may be got into shape, so now I am quite willing this year to be head master, resident master and steward, though, as I have not graduated in an hotel business, the duties of the latter are and always have been slightly foreign to my instincts, and could not have been properly performed at all had not the matron shared them with me. In closing this sketch of what our arrangement in this department of our work should be, allow me to request you to excuse the excessive use of the first personal pronoun. It has not arisen from egotism, but from the difficulty of explaining the arrangement in any other way than by a sketch of the progressive plan of which my actions were part and parcel.

So much for the arrangement. Now what as to the results themselves. And, first as to the department of the Resident Master. During the year we have had in the boarding house the pupils whose names will be found in Appendix A. The conduct of those pupils has upon the whole been excellent. Difficulties to be settled by tact, or even by severe measures, there have been, and always in a place like this there will be, but violation of rules and regulations have been few and far between. In order to secure a moral education, any vice of whatever kind has been unsparingly put down, and the pupils have been surrounded with all the restraints and influences which we could possibly use, to foster and encourage manliness and virtue. Of course we cannot, from our national and non-sectarian character, give a religious education, technically so called, yet all our students have regularly attended family worship, morning and evening; a Bible Class has been conducted every Sabbath afternoon; and besides, I can truly say as I said last year, that "all the residents have been constant attendants at the churches of the denominations to which they respectively belong, whilst the clergymen of those denominations are afforded every facility for visiting, becoming acquainted, and spiritually caring for the young men who have placed themselves under their pastoral charge." The Steward's department has been attended to, as I have already stated by the joint efforts of the matron and myself. The supplies have been furnished in excellent quality by the various contractors, and the utmost economy has been used with every thing that has come into store. Besides what has been received from the contractors which can be seen by a reference to the first table of Appendix F.; fruit, vegetables, and milk, to the estimated value of $594.00, has been sent in from the farm or garden, the details of which may be seen by reference to Table 3 of the same appendix. A thorough record is kept in the books of the store-room of all that comes in and is given out each day wherever the supplies may come from, so that, with

careful supervision on our part, there is absolutely no opportunity for extravagance. We have made our standard of living good, but very plain—too plain for some of our students —but about the average of what is found in the households of the middle classes of our Province. The department under the direct charge of the Matron, Miss Dunn, has been most excellently managed during the year. In kitchen, dining-room, laundry, and bedrooms, cleanliness, order, and regularity, have reigned supreme. No trouble has been spared, and time or labour have never been considered when anything was to be performed, even upon the many occasions during the year when extra exertion had to be made in this department. And everything has been managed with such conscientious carefulness and exactitude, and yet withal with such tact and courtesy, that she has commanded the utmost respect and consideration alike from servants, students, and officers.

Connected with the boarding house is a reading room, which has been supplied during the year with the following papers and periodicals, partly by the Institution, partly by the officers, and partly by the Literary Society, which the resident students have formed amongst themselves:

Toronto *Globe* (daily),
" *Mail*,
Guelph *Mercury*,
" *Herald*,
Canada Farmer,
Farmers' Advocate,
American Agriculturist,
Chicago *Live Stock Journal*,
Country Gentlemun (American).
Scientific American,
Mark Lane Express,
North British Agriculturist,
Irish Farmer's Gazette,
Country Gentleman (British),
Canadian Illustrated News,
Harper's Weekly,
Grip,
Leslie's Illustrated Paper.

And the following Periodicals are placed each Sabbath on file:—

Sunday Magazine,
Good Words,
Quiver,
Family Treasury,
Leisure Hour,
Sunday at Home.

III The Business Department.

The work of this department may best be considered under two or three sub-headings. And, first of all, allow me to mention

(*a*) *The Correspondence.*

From our recent establishment, and the general ignorance regarding our aims and objects, as well as from the fact that no similar institution exists in the Province, we receive many inquiries regarding our educational designs. Again we are carrying on a breeding establishment, and making a great many experiments, about both of which numberless questions are asked. Add to this the regular correspondence of a college, and of a moderate sized business, and it will be seen that even in the matter of writing, my pen has been kept pretty constantly in daily requisition. During the year 1878, there has gone from my office, almost all the letters written by myself, 2,874 letters, 5,730 circulars, and 2,750 reports. An exact account has not been kept of all the letters received, but 2,320 of them have been considered of sufficient importance to file away, so that about 3,500 must have come in. Of course, this does not compare with the work in this line of any of our business houses or banks, yet it represents an average of two hours a day steady work, all the more difficult because a man must write so that, if the correspondence were called for in the House, he need not be ashamed of it.

(*b*) *The Business.*

The business consists in keeping five sets of books, besides a few miscellaneous ones, and doing all the business indicated thereby. In the first place, there is a set relating to all expenditures from the money appropriated for the maintenance of the institution, together with a few sums voted yearly on capital account. Of such expenditures, monthly statements have been sent to your office, and duplicates of everything are retained by us and entered in our books. The second set contains full accounts of the revenue and expenditure on farm maintenance. The third contains similar matter regarding the garden. The fourth set are the books of the store-room. And the fifth are the books containing the accounts kept with the students. These deserve a passing notice. Printed sheets containing the names of all the students are furnished each foreman daily, who fills in the blanks with the descriptions of work done that day by the students in his department, the number of hours each has worked, and the estimated value of such work. These are filed daily in the office, and journalized weekly. At the end of the financial month these sums are posted to the credit side of each student's account in the ledger, whilst on the debit side is placed the exact cost of the board and washing for that month, obtained from the books of the store-room and the laundry At the end of the session those sheets are bound together and make the day-book for that session. Even this set, though it has but one hundred and forty ledger accounts, involves, it will be seen, quite an amount of labour, and we have found that the five sets of books above, not to speak of stock books, inventories, &c., &c., are quite sufficient to keep the most excellent book-keeper now with us diligently employed. This leads me to say that at the commencement of the year an officer of another department was transferred to us as bursar. The duties of the rector are, by our by-laws, added to those of bursar, and hence that gentleman was expected to do both, and received the salary of both—$1,000 per annum. Though an excellent book-keeper, he had no educational experience, and therefore was unable to perform the duties of rector. Could we have retained his services as bursar alone it would have been a gain to us, but his salary was considered too large for that position by itself, and so, at the end of three months, at his own urgent request, he was transferred to Toronto. For the remaining nine months I have had the assistance of a book-keeper, at $400 per annum, and for half that time of a public schoolmaster at the same salary. The arrangement is altogether a better one, and no more costly; and it is almost impossible to find any man who is at the same time a trained book-keeper and a trained disciplinarian as well; and both I have now, are trained, each in his own department, and both are doing remarkably well.

(*c*) *The Statistical Bureau.*

My proposal, as stated two years ago, regarding this matter was as follows:—

"A fair amount of crop and other statistics relating to agriculture are at present collected by the Secretary of the Bureau of Agriculture, and published in the Commissioner's Annual Report. My proposal is to use somewhat the same agencies, but extend the sphere of operations and the subject matter of the statistical reports, so as to include the whole Province and everything relating to agriculture therein, and publish reports monthly, or every two months at the farthest. In other words, I recommend that in this Province we follow with such variations as our circumstances require, the plan adopted by the Department of Agriculture at Washington. The benefits that would accrue to to the agricultural and all other interests, by adopting such a course are evident; and the reflex benefits to the Institution would not be few in number."

Last year after putting myself into communication with all the County Councils and Township Councils in the Province, and promising to the Reeves that such a thing would, if possible, be gone on with, I obtained the names of 4,100 correspondents in two-thirds of the townships of the province. An additional number was obtained through the kindness of many of the members of the Legislature, and this year $1,000 was placed in the Supply Bill for the purpose. Being all the winter, without any assistance, Resident Master of a school of eighty boarders, besides my work as Head Master—and every educationalist knows what both those mean—I could not, however willingly, have matured a scheme and organized the bureau during the winter months. At the opening of the spring, during our week's recess, I matured a scheme founded on the one at Washington, and discovered what I might have

foreseen ; that—unless I were deputy or assistant Commissioner of Agriculture—I was not the person to carry it out, for at every step my actions would have infringed upon the duties and privileges of the present able Secretary of the Bureau of Agriculture. That gentleman has now far more than he ought, at his time of life, to be called upon to do, so that it was useless to think of handing the scheme over to him ; and, therefore, until the Government will consent to make me or some other person Deputy Commissioner of Agriculture, with powers over the conditions on which the eighty or ninety thousand is annually given to agricultural societies, the matter must remain where it is—on paper. I would ask, however, that the sum of $1,000 granted last year, and not touched, though it is not sufficient for the purpose, may be revoted, in order that, should circumstances be favourable, this bureau, which I am thoroughly convinced will not only be of value to the agricultural interest, but to all others directly connected with it, may be successfully inaugurated.

(d) The Finances.

A statement of these will be found in the various tables of Appendix F. The first table contains the details of the expenditure for eleven months on maintenance and capital accounts as provided for by appropriation ; the second contains an estimate of the expenditures for next year under both of those same accounts ; the third shows the account of the boarding house with the farm and garden as well as the income of the latter ; the fourth relates to the income and expenditure of the farm itself, considered simply as a farm ; and the fifth contains an estimate of its income and expenditure for the year just about to open. Allow me to consider them, in the first place, *seriatim*, and in detail.

By reference to Table 1, it will be seen that the sum expended in eleven months on maintenance account has been $18,618.45. Some large outstanding bills have, however, come in during this month, as is usually the case at the end of the year, and from a cursory calculation I find that when any books are closed to-night there will be on hand out of the $21,970 appropriated, the sum of four or five dollars. The only two items which require explanation, as both exceed the amount set aside for the specific purpose, are " Repairs and Alterations," and " Advertising, postage, and stationery." The first has been caused by repairs and alterations that were requisite after the new building was completed, by the erection of a small storeroom, and by putting a steam pump in our large well to give us a supply of water. These were abnormal and unforeseen expenditures on this account at least. The excess in the second has been caused by an expenditure of $200 on some 2,000 extra of last year's reports, which it was thought advisable to send to Agricultural Societies, &c. With the exception of these two items all the other expenditures on maintenance account have been under the specific sums appropriated to a sufficient extent to cover any excess, and still leave a balance on hand. In the part of Capital Account, under our immediate control the expenditure on "Permanent Improvements" and "Implements" are made by Mr. Brown, and in the report of that gentleman will doubtless be found a satisfactory account of them. Of these, both items exceeding by a small amount, the sums granted for the particular service, so that the amount spent on the third item which is under my control has had to be reduced that the whole sum of $4,500 which was granted might not be exceeded. Accounts for British books and for binding have come in during the present month to the extent of $300, so that the total expenditure will be almost equal to the total estimate. In both maintenance and capital accounts, therefore, we have kept within our income, though exceeding the specific sum in one or two details.

Table 2 gives an estimate of what will be required for services during 1879. There is little in the maintenance or capital accounts which requires explanation, and what does will come more properly under the heading of " detailed recommendations." Table 3 represents simply the amount of vegetables, fruit, and milk which has been, at the estimated value shown, supplied to the boarding house by the farm and garden, though it, at the same time, gives fairly enough the income of the garden. In passing, it may be pointed out that the sum credited to the boarding house is obtained from the fifth set of books as already described.

Table 4 represents the income and expenditure of the farm financial year, which unlike ours ends on the 31st Oct., and can therefore be given fully. Divested of all details, the account will stand somewhat thus :—

CASH RECEIPTS.

Sales of farm produce	$ 888 43
Rent of pastures	78 00
Sales of stock	4,034 63
	$5,001 06

CASH EXPENDITURES.

Items per table 4, appendix F	$4,859 19
Cash balance	$141 87

It must be remembered that we are building up our herds and flocks, and sell almost nothing but males therefrom. We are not selling all that we could sell, nor all that, if we were in the position of an ordinary farmer, we would be obliged to sell. If our resources meet our expenditures for a few years until the farm is all cleared, improved and put into rotation, and our herds and flocks are brought up to a maximum, it is all that we at present aim at. To illustrate my position and show what is the balance sheet let this year, as shown in the table mentioned, be taken. The matter does not properly belong to me, but as I understand from Mr. Brown that he has not touched it (his report is always finished before mine is commenced) I may be pardoned if I take up a few sentences by the way of explanation and illustration on this point.

In the first place, let us ascertain what capital is invested in the business of the farm, considered simply as a farm. We have then under cultivation 370 acres, as will be seen from the following division :—

Houses, lawn, kitchen garden, orchard and experimental fields	55 acres
Roads and lanes	11 "
Woods and swamps	71 "
Uncultivated pastures	43 "
Cultivated fields	370 "
	550 acres

We have this summer brought in 28 acres of the uncultivated, wet, pasture land, but that cannot be counted. The outside valuation of these 370 acres with barns included, is $80 per acre ; and the valuation of stock and implements, as given at the close of Mr. Brown's report is $17,000 ; so that the business of the farm, as a farm, has invested in it at the outside estimate $46,600. This should bring in under the shape of net profit, say seven per cent., on the capital invested, or in this case $3,262.00. By reference to table 4, it will be seen that at the end of the farm financial year we have added to our capital by additions to our herds, flocks, &c., the sum of $3,050 in round numbers, (increase of stock $2,100 ; permanent manures $450 ; stock bought $496.42.) and have a balance on hand of $141.87, in all $3,191.87, almost seven per cent. on the invested capital. But it will be said that in our expenses we have not like an ordinary farmer to include the expense of a farm house. It is true that we have not exactly to do so, but yet a pretty close equivalent is given, for when to the salary of the farm foreman, $600, is added the estimated value of potatoes and milk supplied to the College, $398.40, it makes a total of $998.40, which is a fairly liberal estimate of the household expenses of a farm house attached to 370 acres of land. But then that is not all. We keep a pair of horses for the purpose of permanent improvements and instruction, another horse for doing the carting and the outside business of the college, and still another belonging to the farm superintendent. We keep, it may be said, almost wholly for the purposes of instruction, two breeds of cattle that never have as yet, and probably never will, bring us in any proportionate revenue as breeding animals. Add to that four cows belonging to as many officers, and it will be found that, when I place in my ledger account of profit and loss in the farm maintenance account ledger the sum of $800 under "dead heads," I am nearly correct both in classification and amount. Therefore to the $3,181.87 should in all justice

be added the $1,798.40, which will make in all $4,990.27 or in round numbers $5,000, the net profits with which the capitalist using $46,600 capital in this business, pays $998.40 for the support of his household; loses $800 on unproductive, though in the peculiar circumstances necessary, stock; places $3,050 of the interest on his capital into the business; and has a cash balance on hand of $141.87 Such is a statement of the general financial position of the farm as a farm from my standpoint—that of bursar; but all the management and the control of every item, both of revenue and expenditure, is under my colleague, Mr. Brown.

Table 5 gives an estimate of the revenue and expenditure of the farm for 1879, and as in classification and general outline it is identical with the preceding one just explained, comment would be superfluous.

And now, in conclusion, before leaving the subject of finances, allow me to sketch what I conceive ought to be the state of those finances. When we are fully established we will then have, say, one hundred and twenty resident pupils, and forty non-resident. Our experimental fields will be all fully laid out, and the experimental station separated from the school. The farm will be fully equipped, and the herds and flocks bred up to the maximum. This state of affairs should be reached during 1880. Then the total cost, irrespective of any casual revenue, should be as follows:—

Salaries of a full staff	$12,000
Board and washing	12,000
Fuel and light	2,000
General repairs	600
School contingencies	600
Business expenses	800
	$28,000

And against this, as casual revenue, should be received the following sums:—

Farm, in all its departments	$2,000
Students, in payment of tuition, board and washing, above value of labour in all departments	6,000
	$8,000

This will be found to be an impartial estimate, and one that can be easily worked up to. In other words, the carrying on of the Ontario Agricultural College, when it is fairly established upon its permanent basis, may be expected to cost the Province the sum of $20,000 for maintenance annually. And, in the meantime, every expenditure outside of what I have indicated should be gradually eliminated. It will greatly assist matters if my recommendation as to the endowment of the Institution be carried into practical effect; for then the larger portion of the maintenance could be met in some other way than from the fixed Provincial income, which will have so many demands in future upon it, that the carrying on of many of our educational institutions may ultimately be considered a burden upon the people too great to be contentedly borne.

IV. Recommendations and Summary.

I will divide the recommendations I am about to make into two classes. The first will include a number of petty details, each in a sense important, and all, when taken together, covering the whole field of the working of the Institution. The second will consist of more general matters, relating particularly to the basis upon which the permanent establishment of the Institution is to be accomplished.

(*a*). *Particular recommendations in detail.*

Allow me here, in the first place, to refer to the matters brought forward in Table 2 of Appendix F.—the estimates for 1879. And, in order, I will take the last first, thus touching upon :—

A. (1) *Additional Buildings.*—The accommodation is still too limited. During the year 1878, as will be seen, the College Roll has had on it 146 names; and during the same year I have filed 213 applications. It is only to be expected, therefore, that if affairs here are at all well managed, and our arrangements are progressive, that the number in attendance should never be less than one hundred and twenty—at least during the fall and winter terms. In this connection I can only repeat what I said last year. "We have room for eighty students, but the accommodation for the other forty can easily, and at very little cost, be obtained. Let the space between the main building and the school be filled up with a south centre wing, and the necessary space is at once obtained, and an ugly gap taken away; and as there are only two walls to build, the cost will not exceed $5,000. If the centre could be raised another story and a tower placed in front—and both would cost only $3,000 more—there would be a fine college with a frontage of 240 feet, an average depth of 45 feet, having accommodation for all the offices, a residence for the President, three class-rooms, a library, reading-room, museum, and ample accommodation for 120 students." It is the first portion here referred to for which I ask the sum of $5,000. "But this is not all. Ten servants and the matron are cooped up in six rooms each 10 x 12, with eight feet ceilings; our kitchen, pantries, laundry, and scullery, built for thirty students, are all too small now with three times the number, and a storehouse is wanting altogether. These should all have been added to this year, and only the barest necessity compels us to work away with them as they are for this winter. Besides these important additions, a complete heating apparatus will need to be put in during the ensuing season. Sixteen coal stoves, with a small ten-horse engine, and badly arranged and badly laid steam-pipes from it to one-sixth of the building, is an arrangement at once dangerous and wasteful. And add to this, absolutely no appliance for putting out any fire but a couple of small fire-extinguishers and buckets of water here and there—no tanks, no hose, and little water—and it will at once be seen that before the additions to the back buildings are completed, and a heating apparatus with ample tanks attached put in, the most—indeed the whole of the $12,500 asked for the purpose will be exhausted." The other items are the same as were asked for last year, and asked on the principle that was then thoroughly explained. They properly came under Mr. Brown's report in which I understand the details have been given. Turning now from Capital to Maintenance Account, we have first of all,—

(2) *Experiments.*—Mr. Brown has doubtless given full reasons why he desires this year to spend $1,000 under this heading; and I know how ten times the amount could be advantageously spent for the same purpose.

(3) "*Boarding proper,*" *or* "*Board.*"—It will be seen that I have classed a number of items in a peculiar manner under this heading. It includes the cost of "Food," "Family Expenses" and "Household Servants." Formerly we paid each pupil a bonus of $50, but I now propose that the bonus should be on the other side, and that each student should pay us the balance of his ledger account arrived at in the manner I have already explained, amounting in each case to a sum varying from twenty to fifty dollars. I estimate the revenue from this source for next year at twelve hundred dollars minimum, but to be absolutely certain I have placed it at one-seventh the estimated cost of the board or eleven hundred and ten dollars. I hope that soon we may be able to have a revenue from this source that will pay, at least, one-half of the tuition fees, board, and washing; but we must proceed one step at a time. We have gone a good many since the old plan was first laid down; for had it still been in force we would have required to pay out this year alone about $3,600 as "bonuses to pupils;" whereas $400 has been received from them which will be added to next year's revenue from the same source, so that our advance has now saved us $4,000; and it is to be hoped that other two or three years will see an advance of another $4,000 towards wiping out the item of "Board" altogether from our yearly estimates.

(4) *Salaries.*—It will be noticed that an improvement is here made by striking out all the household servants, and including their wages under the head of "Board." The list of the staff is more like that of an educational institution although one or two officers have yet to be eliminated before it stands as a school or college and nothing more. Proceeding in the same way as before we take up in the first place,—

(5) *The Salary of the Matron.*—The advance I ask here is one of $5 a month, and I would say nothing in urging it; the class of residents demanding a higher ability in the lady, the excellence of the work in this department, and the precedents in the case of the other institutions, all speak better than any words of mine could possibly do. I can only say that no officer better deserves consideration, and whilst recommending it I would also recommend a gradual yearly increase until the maximum is reached, according to success and efficiency.

(6) *The Bursar and the Assistant English and Resident Master.*—In the next place it will be seen that as we have divided up the duties of Bursar into those of the bursar proper and the rector. I ask for the appointment of an officer to each position at a salary of $600 per annum. The arrangement suggested is the proper one, and the salaries are by no means large—simply market rates—for a good book-keeper even is worth the same any where, and the Rector or more properly the Assistant English and Resident Master must be a first-class Public School Master, commanding the same salary in any school in the Province.

(7) *The salary of the Professor of Chemistry.*—I can but repeat here what I said last year: "The Professor of Chemistry lectures to the several years on the subject of chemical physics, inorganic, organic, agricultural and analytical chemistry, geology and meteorology. He has charge, besides, of the laboratory, and is expected to train his second year students in practical chemistry, and his third year students in the qualitative and quantitative analysis of soils, foods and manures. He must likewise be a practical chemist, and make any such analysis that may be required or his time permit. The scientific attainments therefore that he puts to use are equal to those of the Professors of Chemistry in any of the colleges, and far superior to those of any Science Master in our High Schools, Collegiate Institutes, or Normal Schools. There are two classes of men attainable for the position—the first from the older countries, the second from our own. The former cannot be procured for less than £400 sterling per annum. The latter can be obtained as graduates of our Universities, who have followed a scientific course therein, but they must train themselves for this special work here. The salary offered will bring these, but will not keep them. Were encouragement given—say in a graduated increase proportionate to success—any such young man might be induced to devote his abilities in a direction hitherto not followed in the Province, and explore ground where discoveries of great value to agriculture are likely to be made. The only other of our public institutions with anything of a similar nature attached are our Provincial Normal Schools. The Science Masters there do not require to use one-third of the scientific attainments of the Professor of Chemistry here, and they receive $500 per annum more. What I ask for is a graduated increase of $200, until at least that point is reached. And the fact that two occupants of the position—excellent men both—have left us for the financial reason assigned should be proof positive of the correctness of my reasoning.

(8) *The Executive Board.*—I would also recommend that the various officers of the institution be formed into a Board which would act as an executive body the same as the faculty of any other educational institution is accustomed to act. We have practically been doing this for two years, but what I now ask is that our duties should be defined and our powers explained. And as consequent upon this and the separation of the duties of the Bursar, it will be necessary to revise the by-laws under which we are at present carrying on the Institution.

(*b*). *General Recommendations.*

Regarding the general relations of the Institution I will trouble you with but three suggestions, and two of these have been previously made:

(1) *Endowment.*—I quote from my previous report. "Again, it is advisable to look forward to the time when the Institution can stand on its own footing. It is easily conceivable that when well established, the students will be readily willing to pay for board and

washing if tuition is free, and thus a great part of your Maintenance Account may be abolished. And it is positively certain that when put into shape, the farm will pay its own expenses. When these branches of expenditure are struck off, there remains but the salaries of the staff. In order for ever hereafter to meet this charge, I think it would be highly advisable to set apart six townships on the proposed line of the Canada Pacific Railway, through Ontario, as a land endowment for the benefit of this Institution. From the time the Railway was under way, these townships would pay the salaries of the staff. This would be but following the practice of the United States, as land scrip there forms a large part of the revenue of each Agricultural College. Were this carried out, at the end of the first ten years of the existence of the college, it would, with the exception of the cost of experiments and permanent improvements in the shape of buildings, be self-supporting."

(2) *Affiliation.*—Allow me again to quote from last year's report: "The second suggestion that I would make regarding the school is, that it should be affiliated to the University of Toronto. In offering such a suggestion I would disclaim any intention of making the Institution a department of any university. As the term is usually understood, that could only be effected in this instance by using the teaching of University College. With that educational institution the proposal has nothing to do. It is with the University of Toronto, as an examining body, that I would desire you to deal. In the first place, then, it is highly advisable that the students who complete their course with us, should receive not only a certificate of attendance, but a certificate or diploma which would testify that they had studied successfully the various subjects embraced in the curriculum. Such a certificate, diploma, or degree, is given in every similar institution. Now the more weight this certificate can carry, the greater value will it be to the graduates, and the greater will be the ultimate advantage to the Institution. But that has been too recently established, and is too little known for any certification by its masters to carry the weight, the value, or the influence, that a similar certificate from such a body as the Senate of the University of Toronto could command. Again, whilst this Institution might be called a "Public Institution," it is, unlike all other public institutions, essentially an educational one. But it stands outside of our present educational system, for its ends are special and its training technical. The more, however, all our educational institutions are brought into harmony, the better will it be for the success and stability of each. To this rule we are no exception. We have at present no status in educational circles, and are consequently without the reflex influence which the possession of it commands amongst the classes we more especially desire to reach. Such a status would be obtained, and our Institution placed in harmony with our whole educational system, by affiliation with the University of Toronto. Still further, it is a well-established rule that certificates of qualification should never issue on the results of examinations conducted by the teachers. That rule will be followed in the event of the course suggested being adopted. And lastly, in order to give us the power to grant diplomas or degrees, we would require a charter from Parliament. The time may come when this Institution, standing at the head of affiliated agricultural schools in the Province, would have a legitimate right to make such a request. But that time has not yet arrived, and there are slight signs of its dawning on the horizon. Instead of Parliament increasing the number, its true policy is to buy up existing charters, and make one degree-granting body for the Province. In view of the soundness of that policy, it would be an evidence of legislative folly to ask for this place such a power; and a sign of legislative wisdom to put it in affiliation with that body, which under whatever name—University of Toronto, or University of Ontario—is destined to be the only degree-granting body in the Province. Many other arguments might be adduced, but these will be sufficient to show the reasons for, and the ends to be attained by, affiliation with the University of Toronto."

(3) *Permanent Establishment.*—It must not be forgotten that when the place was established, it was on the recommendation that there should be a preparatory term extending over a few years, during which the farm should be placed in order and the school thoroughly organized. Allow me to recall to your mind the circumstances. A committee of agriculturists, gardeners, and educationalists, known as the Provincial Farm Commission, was appointed to report on the best means of making the Guelph Farm then purchased suitable for the purposes intended. That committee reported, and upon that re-

port as a basis the Institution was organized. The main features of that report may be thus stated. The name of the Institution was given, and its objects defined ; a sketch-plan of the place as finally organized was given, the staff of officers detailed and their duties given, and a recommendation was made that until such time as the farm was in order—that is, until it was made a model and experimental farm—there should for a few years be a preparatory stage, during which the plan sketched should be reached. That plan has been followed, and that stage ends next year. It is expected that at the end of that year our farm will be in a condition to enable the work upon it to be carried on permanently, and our experience in farm and school such as to enable a fully matured plan to be drawn up, upon which the whole Institution may be for many years based. In order that such a plan may be fully matured, I would make the following recommendations :—Let some individual be commissioned to bring down a full report upon the subject of agricultural education in general, showing its aims and objects, and its necessity in the peculiar circumstances of our Province ; the manner in which it is carried out, especially in Germany and the United States, giving in connection his own practical observation of some few of the leading colleges in each. Having thus prefaced the matter, the report should proceed to consider this Institution as already established, and draw out a definite scheme for its future. A plan of the farm should be submitted, showing the portions to be used for the horticultural department, the experimental farm department, and the model farm department. Each of those should again be further arranged, giving the general outline of each. It should show what the farm buildings ought to be, and how the present ones could be gradually worked up to that standard. It should contain a plan of the College buildings when completed, and again indicate the manner in which our present structures are to be worked thereinto. And the cost of all should be carefully estimated and accompany this part of the report. Drawing then on our five years' experience, it should contain full particulars regarding the course of study and the course of apprenticeship. In other words, a complete curriculum should be given, and rules and regulations for the government of the Institution, drawn likewise from previous experience, should accompany this part. The complete staff of the Institution should be recommended, and a general outline of the duties of each man thereof be given. And, finally, the external relations of the Institution to all the other educational and public institutions, as well as to the agricultural class of the community, should be clearly indicated. This report should be in the hands of the Government not later than the month of October, 1879 ; and framed upon it, a Bill should be introduced into the House during the Session of 1880, stating the name and objects of the Institution, and containing in the remaining clauses the general manner of accomplishing them. When the Bill becomes an Act, a revised calendar or circular, and a completely new set of by-laws should be prepared, giving detailed effect by rules, regulations, and orders-in-council, to the more general provisions of the Act. And upon the basis of such an Act and such a report, all future appropriations should be asked and granted. For, strange though it may seem, though three able administrations have had to do with the establishing of the Institution, there is not an act creating the place amongst the statutes of the Province, and we exist from year to year simply by the will of each successive Parliament. This unprecedented state of affairs should be ended immediately, and as the work of the preparatory term of five years will be sufficiently completed during the ensuing session, the Session of 1880 is the one to which I look in anticipating the complete establishment, upon a permanent basis by some such means as those I have thus imperfectly indicated, of the Ontario Agricultural College and Experimental Farm. But it will be asked what has been done during this preparatory term of five years, and has the measure of success attendant upon the efforts already put forth been such as to warrant the Legislature in for ever establishing the Institution upon a permanent basis, and if the place be not endowed, thereby adding to the necessary annual expenditure of the Province the sum of twenty thousand dollars. We are now at the end of the fourth and entering upon the fifth and last year of this preparatory stage, and our experience enables us to answer the question truthfully in the affirmative. When established, it was expressly stated that the objects of our existence were "the training of young men in the theory and practice of improved husbandry," and "conducting experiments tending to the solution of questions of material interest to the agriculturalists of the Province." In order to accomplish those objects, the present farm was to be made suitable for the purposes indicated during the preparatory stage

by the labour of students who were to be organized during that time into a school. Let us glance at what that implied. In order to make the farm a model and experimental farm, a large amount of wet, uncultivated pasture land covered often with underbrush and logs, had to be broken up; a large portion of the farm required to be drained ere it could be worked; the part already cultivated had to be cleaned of weeds; the whole of the fields needed to be remodelled, refenced, put into right shape, and all placed under definite rotation; all the farm buildings had to be improved and many new ones, consequent upon our peculiar necessities, had to be erected; a complete horticultural department, with orchards, lawns, and gardens was to separate, lay out and plant; the college buildings were to plan and be added to the old farm house; and the college itself in all the departments of instruction was to be thoroughly organized. Such is a brief sketch of the work to be done in this preparatory term. Four-fifths of the time has passed, and more than four-fifths of the work has now been accomplished, During those four years, one hundred and sixty acres of uncultivated pasture land has been reclaimed or brought under the plough; one hundred and thirty have been cleaned; over two hundred and eighty, have been laid nearly eleven thousand rods of drains until few wet spots exist; a plan of the farm has been drawn up, and the fields, remodelled according to it, have assumed a regular rectangular shape; fifteen hundred and twenty rods of various kinds of fencing have been built to accomplish the readjustment; many improvements and alterations have been made on the out-buildings to suit them for our peculiar purposes, and by those improvements they have been made more convenient of access, economical for feeding, and suitable for general use; whilst of the buildings necessary there have been erected a carpenter's shop, and experimental barn, a gardener's shop, green-houses, and forcing houses, a poultry house and pig pens; the thirty-acres in front have been laid out and put into orchards, lawn, gardens, and shrubberies; through them drives and walks have been cut, graded, and gravelled; shade and experimental forest trees have been planted, and the foundation of a complete horticultural department, well and thoroughly laid; forty acres have been cleaned and laid aside as an experimental farm, and seventeen of them already used for the purpose, besides six cut up into some forty plots; the old farm-house has gradually assumed the outline of a college building, for on it has been placed a mansard roof, and to its north side has been added two wings, fifty-three by forty-two, and fifty by forty respectively; and to the south side one wing fifty by forty; so that it only requires one additional wing to that side to make the whole a fine range of college buildings, two hundred and forty feet in length, and forty-two feet in width, capable of acommodating within its walls one hundred and twenty resident pupils, besides the necessary class-rooms, sitting-rooms, reading-rooms, library and museum. On this farm, during the four years, not only has the improvements sketched been accomplished, but there have been grown the usual cereals, grasses, and roots, and those so cultivated that the land has proved a profitable investment, and at the same time an invaluable lesson for students. In the yards we have been gradually breeding from small beginnings into six breeds of cattle, five of sheep, three of pigs, and two of poultry, until now our flocks are acknowledged to be amongst the best in the Province, and our herds are obtaining considerable proportions, and, in the opinions of the best judges, commendable excellency. In the orchard and gardens, the lawn and shrubberies, there have been planted, or annually sown or grown, for the purposes of use, beauty, or instruction, some seventy-six varieties of standard and forty-two of small fruits, sixty-four of shrubs, eighty of plants and flowers, and twenty-four of vegetables, whilst at the same time the varied methods of cultivation have been acquired with constant practice by all our students. On our experimental fields and plots we have carried on during the last three years, some three hundred and sixty distinct experiments with varieties of fall wheat and spring wheat; of barley and oats; of peas and corn; of grasses and clovers; of potatoes and carrots; of mangolds and turnips; of different modes of cultivation and different manures; of various kinds of fodder and different breeds of cattle, sheep, and pigs. And in all those departments of work, the practical instruction of the pupils has been going on. And this leads naturally to the last remark, that in the college buildings mentioned there has constantly, during these four years, been a full quota of students, and the course of study pursued by them has been completely drawn up, and the intellectual work founded thereon thoroughly organized. Around the subject of agriculture has been

grouped the various sciences which treat of the plant, the soil, and the animal; all that explains the structure and diseases of the latter; and all the practical studies that will be required to be applied by the students in performing their own business, or sustaining their varied relations as citizens in the general community. And in order to carry out that course of study a staff has been appointed, thoroughly arranged, and the duties of each member of the body clearly defined. The facilities at hand for successful teaching are not what they ought to be, but their number is constantly increasing. The library and reading-room, the laboratory and dissecting-room, the class rooms and museum are being gradually filled with books and periodicals, furniture and appliances, implements and apparatus, grains and grasses, insects and plants, fossils and minerals; whilst the farm itself with its six breeds of cattle, five of sheep, three of pigs, and ten of poultry, its latest implements, and its varied departments, all furnish a series of appliances which, in the hands of able and conscientious masters, are capable of being used with effect in the intellectual development of any number of students in the general and technical knowledge and skill requisite for success in their chosen profession. And the number of students is constantly increasing; in our first year it was thirty-one; this year it was one hundred and forty-six. During those years the names of two hundred and forty-seven students have have been entered upon our roll. Of that number one hundred and sixty-three have left us after remaining a shorter or longer time, and of that number one hundred and twenty-one are known to be following agriculture, horticulture or the veterinary profession, besides others of whom we have no trace who may be doing so as well. Those results speak for themselves, and warrant the assertion, that from whatever direction the matter is considered, and under whatever departments of progress we may be examined, the work laid down for the preparatory stage of our existence has so far been well and faithfully done. And this is being acknowledged on all hands, and by none more heartily than by the class of the community who will, if we are successful, be the first to feel the benefit of our foundation. During the present month the only organized body of that class known in the Province passed resolutions expressing their gratification at our establishment and progress; and from every side we are receiving letters of congratulation upon our success, and, what we value even more highly, containing the most valuable advice and the kindest offers of assistance. Established at first without consulting the people who were in general ignorance of our aims and designs, clouded by unfortunate difficulties and seeming disgrace at the outset, we were in danger of sinking in the darkness; but now, at the conclusion of those three or four years of struggle, the clouds are passing, the mists of ignorance and misconception are being dissipated, the gray dawn of the morning has come, and surely not hope but certainty predicts that it will be followed by the brilliant sunlight of noon. But if this prediction is to be verified, that which I have been striving to urge—the establishment of the Institution upon a permanent basis—must this year be undertaken. And if the nature of the work that I have so imperfectly sketched during this preparatory stage has been so far satisfactory, if the experience gained can be relied on as a guide in future effort, if almost every appliance for success is now really at hand, if our external relations are yearly becoming highly satisfactory, surely there can be no good reason for delaying a single day beyond the preparatory term of five years, the permanent establishment, upon a sound and practicable basis, of the Ontario Agricultural College and Experimental Farm.

I have the honour to be, Sir,
Your obedient servant,
WM. JOHNSTON,
President.

APPENDIX A.

I. COLLEGE ROLL FOR THE YEAR 1878.

2. COLLEGE ROLL FOR THE SESSION 1878-79

1. COLLEGE ROLL FOR THE YEAR 1878.

Name.	P. O. Address.	County, &c.
Allan, David M	Elora	Wellington
Anderson, John	Guelph	Wellington
Ash, George E	Thorold	Lincoln
Austin, Clements B	Ottawa	Carleton
Awty, Foljambe	Mitchell	Perth
Baker, Charles J	Yarmouth	Yarmouth
Barclay, James T	Listowel	Perth
Batty, James	Meaford	Grey
Bawden, George	Kingston	Frontenac
Bell, Andrew	Guelph	Wellington
Bell, Thomas	Campbell's Cross	Peel
Beet, Andrew John	Ancaster	Wentworth
Bill, Ingram E	Billtown	Kings
Bonnard, Louis Ernest	Hamilton	Hamilton
Boomer, Albert	Hawksville	Waterloo
Bratton, John B	London	Middlesex
Brown, Leopold A	Aylmer	Elgin
Brecken, John	Charlottetown	P. E. Island
Burnet, Russell Martyn	London	London
Butterfield, Jesse D	Norwich	Oxford
Campbell, Donald	Vankleek Hill	Prescott
Cann, Mark	Huntsville	Muskoka
Carey, Edward W	Charlottetown	P. E. Island
Carey, Oswald F	Goderich	Huron
Carry, George H	Homer	Lincoln
Carney, Richard	Sault Ste. Marie	Algoma
Carpenter, Ernest H	Port Dalhousie	Lincoln
Chapman, Richard K	Plymouth	England
Chase, Oscar A	Sparta	Elgin
Clark, James	Montague	Lanark
Clark, George Franklin	Downsview	York
Clark, George E	Fairbank	York
Clark, Frederick W	Fairbank	York
Clinton, Nelson J	Windsor	Essex
Clutton, John G	Millburn	Huron
Clutton, Alexander	Millburn	Huron
Cowan, Alexander	Ottawa	Carleton
Cowan, William H	Ottawa	Carleton
Cornell, Ashley C	Harley	Brant
Craig, William	Abbottsford	Ranville

Name.	P. O. Address.	County, &c.
Crompton, Edward	London	England
Davis, Charles	Pembroke	Wales
Davis, Robert A	York	Haldimand
Dawes, Mark A	Montreal	Montreal
Devenny, John	Buckingham	Ottawa Co.
Dick, Arthur	Toronto	Toronto
Dickson, Samuel	Pakenham	Lanark
Dickson, James D	Pakenham	Lanark
Duff, Charles J	Ancaster	Wentworth
Duncombe, Orlando H	Waterford	Norfolk
Dunkin, Thomas L	Norwich	Oxford
Elliott, John	Onondaga	Brant
Elwell, William	Paris	Brant
Exham, Francis	Monkstown	Ireland
Farlinger, William K	Morrisburg	Dundas
Fergusson, John	Onondaga	Brant
File, John	York	Haldimand
Firth, William A	Norwich	Oxford
Flanaghan, Michael	Kingstown	Kingston
Fleming, William	Glenmorris	Brant
Fyfe, Alexander	Guelph	Wellington
Gamble, Thomas A	Toronto	Toronto
Gillespie, George H	Hamilton	Hamilton
Glass, William	East Zorra	Oxford
Greig, George H	Toronto	Toronto
Graham, David	Wallbridge	Hastings
Graham, Henry	Primrose	Cardwell
Goldie, John	Corunna	Lambton
Goldie, Henry	Corunna	Lambton
Hartshorne, Lawrence	London	London
Hay, Alvin R	Toronto	Toronto
Heaslip, Francis	Toronto	Toronto
Hewson, James	Tullamore	Peel
Herring, Robert W	Montreal	Montreal
Hersey, Charles	Hawksville	Waterloo
Higgins, James D	Toronto	York
Holterman, Richard T	Toronto	York
Hopkins, James	Lindsay	Victoria
Jenkins, Lewis	Charlottetown	P. E. Island
Jones, Jonas	Gananoque	Leeds
Jopling, William	Avonbank	Perth
Joyce, Henry G	Toronto	Toronto
Kerns, Ernest C	Burlington	Halton
Kelly, Francis	Hawksville	Waterloo
Lackner, Franklin	Newmarket	York
Laidlaw, John C	Acton	Halton
Lawson, Bruce A	Kingston	Frontenac
Lomas, Joseph W	Yorkville	York
Lowe, Albert J	Toronto	Toronto
Logan, Thomas	Guelph	Wellington
Luton, Alfred	Meaford	Grey
Macaulay, Herbert	Hamilton	Wentworth
Major, John S	Whitevale	Ontario
Major, William H	Whitevale	Ontario
Miller, James	Goderich	Huron
Mills, Franklin	Sparta	Elgin
Moore, Murray A	Norwich	Oxford

Name.	P. O. Address.	County, &c.
Muntz, Herbert A	Alport	Muskoka
McFarlane, Norman	Actonvale	Bagot
McGibbon, William A	Montreal	Montreal
McLelland, Henry J	Hornby	Halton
McKenzie, Alexander	Guelph	Wellington
Naismith, David	Mount Forest	Wellington
Newman, Joseph	Guelph	Wellington
Nelson, James R	Sorel	Richelieu
Nicol, Arthur	Cataraqui	Frontenac
Ollendorf, Hermann	Leith	Scotland
Paige, Arthur	Sparta	Elgin
Patton, Thomas	Hamilton	Wentworth
Presgrave, William F	Montreal	Montreal
Powers, Samuel S	Port Hope	Durham
Randall, Joseph R	Newmarket	York
Raymond, Andrew	Ottawa	Carleton
Robertson, John	Montreal	Montreal
Robertson, Francis	Toronto	Toronto
Robinson, Charles B	Middlemarch	Elgin
Roberts, Percy	Toronto	Toronto
Simmers, Hermann J	Toronto	Toronto
Shaw, William C	Thamesville	Kent
Shand, Charles H	Port Dover	Norfolk
Stewart, William	Hornby	Halton
Stelfox, John W	London	England
Stirling, John A	Kingston	Frontenac
Stover, Francis	Norwich	Oxford
Stubbs, William H	Bosworth	Wellington
Shairp, Thomas	Brampton	Peel
Tipper, Edmond S	Brantford	Brant
Tracy, Francis	St. Mary's	Perth
Toole, Lewis	Mount Albert	York
Turner, John T	Hamilton	Hamilton
Torrance, Frederick	Montreal	Montreal
Warren, John B	Oshawa	Ontario
Warren, William	Oshawa	Ontario
Willis, John	Whitby	Ontario
Willis, James	Whitby	Ontario
Wilson, Thomas C	Barrie	Simcoe
Wilson, William	Kingston	Kingston
Wilson, Samuel J	Bosworth	Wellington
Warnica, Angus W	Painswick	Simcoe
Webster, John L	Yarmouth	Yarmouth
White, George P	Clarksburg	Grey
Willson, John D	Oakville	Halton
Wilkins, Mark	Galt	Waterloo
Woodhouse, Sydney	Montreal	Montreal
Wilkinson, Peter J	Cambray	Victoria
Yarwood, Edward B	Cherry Valley	Prince Edward

Total number..... 146

2. COLLEGE ROLL FOR THE SESSION 1878-79.

Name.	P. O. Address.	County, &c.
Allan, David M.	Elora	Wellington
Anderson, John	Guelph	Wellington
Ash, George E	Thorold	Lincoln
Baker, Charles J	Yarmouth	Yarmouth
Barclay, James T	Listowel	Perth
Batty, James	Meaford	Grey
Bell, Andrew	Guelph	Wellington
Belt, Andrew J.	Ancaster	Wentworth
Bill, Ingram E	Billtown	King's
Bonnard, Louis E	Hamilton	Hamilton
Burnet, Russell M.	London	London
Carey, Oswald F	Goderich	Huron
Carry, George H.	Homer	Lincoln
Carney, Richard	Sault Ste. Marie	Algoma
Clark, James	Montague	Lanark
Clark, George F	Downsview	York
Clark, George E	Fairbank	York
Clark, Frederick W.	Fairbank	York
Chapman, Richard R.	Plymouth	England
Clinton, Nelson	Windsor	Essex
Clutton, Alexander	Millburn	Huron
Craig, William	Abbottsford	Ranville
Campbell, Donald	Vankleek Hill	Prescott
Dawes, Mark A.	Montreal	Montreal
Devenny, John	Buckingham	Ottawa
Duff, Charles J.	Ancaster	Wentworth
Duncombe, Orlando H.	Waterford	Norfolk
Elliott, John	Onondaga	Brant
Fergusson, John	Onondaga	Brant
File, John	York	Haldimand
Firth, William A.	Norwich	Oxford
Flanaghan, Michael	Kingston	Kingston
Fleming, William	Glenmorris	Brant
Fyfe, Alexander	Guelph	Wellington
Gillespie, George H	Hamilton	Hamilton
Graham, Henry	Primrose	Cardwell
Glass, John	East Zorra	Oxford
Greig, George H.	Toronto	Toronto
Goldie, John	Corunna	Lambton
Hartshorne, Lawrence	London	London
Hay, Alvin R	Toronto	Toronto
Heaslip, Francis	Toronto	Toronto
Herring, Robert W.	Montreal	Montreal
Hersey, Charles S.	Hawksville	Waterloo
Higgins, James D.	Toronto	York
Holterman, Richard F.	Toronto	York
Jopling, William	Avonbank	Perth
Joyce, Henry G.	Toronto	Toronto
Keans, Ernest C	Burlington	Halton
Laidlaw, John	Acton	Halton
Lawson, Bruce A.	Kingston	Kingston
Lomas, Joseph W.	Yorkville	York
Lowe, Albert J	Toronto	Toronto
Macaulay, Herbert	Hamilton	Wentworth

Name.	P. O. Address.	County, &c.
Moore, Murray A	Norwich	Oxford
Miller, James	Goderich	Huron
McGibbon, William A	Montreal	Montreal
McLelland, Henry	Hornby	Halton
Newman, John	Guelph	Wellington
Nelson, James R	Sorel	Richelieu
Nicol, Arthur	Cataraqui	Frontenac
Patton, Thomas	Hamilton	Wentworth
Presgrave, William F	Montreal	Montreal
Powers, Samuel S	Port Hope	Durham
Randall, Joseph R	Newmarket	York
Raymond, Andrew	Ottawa	Carleton
Robertson, John	Montreal	Montreal
Robinson, Charles B	Middlemarch	Elgin
Roberts, Percy	Toronto	Toronto
Shand, Charles H	Port Dover	Norfolk
Stubbs, William H	Bosworth	Wellington
Toole, Lewis	Mount Albert	York
Turner, John T	Hamilton	Hamilton
Torrance, Frederick	Montreal	Montreal
Willis, John	Whitby	Ontario
Willis, James	Whitby	Ontario
Wilson, Thomas C	Barrie	Simcoe
Wilson, Samuel J	Bosworth	Wellington
Warnica, Angus W	Painswick	Simcoe
Webster, John L	Yarmouth	Yarmouth
White, George P	Clarksburg	Grey
Woodhouse, Sydney	Montreal	Montreal
Wilkinson, Peter J	Cambray	Victoria
Yarwood, Edward B	Cherry Valley	Prince Edward

Total number	84
Number of Students in Second Year	30
" " First Year	43
" " Preparatory Year	11
Total number of Students	84

APPENDIX B.

1. Circular for the Scholastic Year, 1878.
2. Brief Prospectus—Winter Session, 1878–79.
3. Time Table for Winter Term of Winter Session, 1878–79.

CIRCULAR OF THE ONTARIO AGRICULTURAL COLLEGE

FOR THE

SCHOLASTIC YEAR, 1878.

Staff.

(*a*) William Johnston, M.A., *President, Professor of Natural History, English and Mathematics.*
(*b*) William Brown, Esq., *Professor of Agriculture and Farm Superintendent.*
(*c*) Peter H. Bryce, M.A., *Professor of Chemistry and Practical Chemist.*
(*d*) E. A. A. Grange, V.S., *Professor of Veterinary Science and Practitioner.*
James Stirton, *Instructor in Farm Department.*
John F. Barron, *Instructor in Horticultural Department.*
James MacKintosh, *Instructor in Mechanical Department.*

Introduction.

The Institution, known as the "Ontario School of Agriculture and Experimental Farm," is situated about a mile to the south of the Town of Guelph. The Farm consists of 550 acres, about 400 of which are cleared, and is composed of almost every variety of soil. It is in the centre of an extensive agricultural district—one unrivalled in the Province for the raising of stock. Readily accessible by rail from all parts of the Province, in close proximity to a town at once one of the finest grain and stock markets of Ontario—noted besides for the strong moral and religious tendencies of its people—no site could have been found more eminently suited for the establishment thereon of such an Institution.

Immediately upon taking possession, the Government appointed a Commission to enquire and report regarding "the manner of adapting the said farm and management and control thereof to the purpose of a Model and Experimental Farm." A few extracts from the Report of this Provincial Farm Commission will show clearly the basis upon which the Institution is at present established.

"The name of the Institution should be "The Ontario School of Agriculture and Ex-
"perimetal Farm."

"The objects of the Institution should be—First, to give a thorough mastery of the prac-
"tice and theory of husbandry to young men of the Province engaged in Agricultural or

(*a*) Gold Medallist of the University of Toronto.
(*b*) Gold Medallist of the Highland and Agricultural Society of Scotland.
(*c*) Gold Medallist of the University of Toronto.
(*d*) Formerly Lecturer on Anatomy in the Ontario Veterinary College.

"Horicultural pursuits, or intending to engage in such; and second, to conduct experiments "tending to the solution of questions of material interest to the Agriculturists of the Province, "and publish the results from time to time.

"That the Farm should be separated into five distinct departments, namely:

"1. Field Department.
"2. Horticultural Department.
"3. Live Stock Department.
"4. Poultry, Bird and Bee Department.
"5. Mechanical Department.

"All permanent improvements on the Farm should be carried out on a gradually de- "veloped system, and in such a manner as to exhibit and test the comparative values of the "most approved method of executing the several works; and to test the cost, convenience and "durability of the several appliances from time to time recommended for adoption on the "farms of the Province."

In order to carry out the suggestion of the Provincial Farm Commission, the Government made such improvements on the residence found on the place as would best utilize it for present purposes. Accommodation was provided for about twenty-five pupils, a Principal and a Rector were appointed, and a Foreman for each of the following four departments engaged, viz.:

1. Farm Department.
2. Live Stock Department.
3. Horticultural Department.
4. Mechanical Department.

The Institution was opened in May, 1874. Since that time many improvements have been made on the Farm, and the facilities at hand for the purposes of education greatly increased. The nucleus of a breeding stock, consisting of six different breeds of cattle, five of sheep, three of pigs, and eight of poultry, has been secured, and the latest and most improved implements bought.

A mansard story, giving accommodation for eighteen additional students, has been placed on the main building; a three-story structure, with Veterinary and other class rooms, to be used entirely for school purposes, has been put up; and two wings to the north erected, giving accommodation in the Boarding house for eighty students, and in the class-rooms for one hundred and twenty.

The experience gained during the last three years has enabled the following course of study, rules and regulations, to be drawn up. These are published in order that the people, and especially the farmers of the Province, may see at a glance the terms of admission to, the subjects taught in, and the benefits to be conferred on its pupils by, "The Ontario School of Agriculture and Experimental Farm."

I—TERMS OF ADMISSION.

Before admission to the School as a pupil, each candidate, being at the full age of fifteen years, will produce the following certificates:—

1. As to moral conduct.
2. As to physical health and strength.
3. As to the assent of his parents or guardian for admission.
4. As to his intention to follow agriculture or horticulture as an occupation.

The standard of education necessary for admission as a pupil, will be as follows:—about equal, as will be seen, to the fifth class of a good Public School:

1. Reading, writing, spelling.
2. English grammar—analysis and parsing of simple sentences.
3. Arithmetic—to Proportion.
4. Outlines of General Geography, and Geography of Canada.

Those who can produce a certificate of entrance to any High School, those who hold Teachers' Certificates, or are graduates or undergraduates of any University in Her Majesty's Dominion, are considered to possess the literary qualification requisite for admission.

Those who, by residing in parts of the country not furnished with good schools, or through other unfavourable circumstances, cannot pass the entrance examinations, but who nevertheless are fairly skilled in farm operations, will be allowed to enter the preparatory year, which year will be by them largely spent in the school. Those who know nothing of farm operations will likewise be allowed to enter the preparatory year, which, in their case, will be mainly spent on the farm.

Farmers' sons or others following the occupation of farming, will be allowed to attend classes during the Winter Session, which shall count as a year, under conditions hereinafter specified.

II—COURSE OF STUDY.

The instruction given at the Institution is divided into two parts:

1. Course of Study.
2. Course of Apprenticeship.

The former has reference to the theoretical, and the latter to the practical instruction. The regular course of study for matriculated students is one of two years. There is a special course for those attending only during the Winter Session, whereby, no apprenticeship being undertaken in that time, additional studies are possible, and the whole field covered likewise in two Winter Sessions—called two years.

The course of study is as follows:—

First Year.

Subjects:

Practical Agriculture.
Veterinary Anatomy.
Veterinary Materia Medica.
Physical Geography.
English.
Chemistry.
Botany.
Zoology.
Geology.
Mathematics.

Second Year.

Subjects:

Agriculture.
Veterinary Pathology.
Veterinary Surgery and Practice.
Book-Keeping.
Levelling and Surveying.
Agricultural Chemistry.
Economic Botany.
Entomology.
Meteorology.
English Literature.

Preparatory Year

For those with poor education, but with skill in farm operations.

Subjects:

Arithmetic.
Grammar.
Geography.
History.
Reading and Spelling.
Writing and Correspondence.

Preparatory Year

For those with fair education, but with no knowledge of farm operations.

Subjects:

English.
Farm Apprenticeship.
Garden Apprenticeship.
Mathematics.
School Instructions on Farm Operations.

III.—DEPARTMENTS OF INSTRUCTION.

I.—Agriculture.

Introduction.—*History of Agriculture*—Ancient, mediæval, modern ; *Literature*—standard works—reports of Societies—periodicals ; *Varieties of farming*—dairy—stock—ordinary mixed husbandry.

Soils.—Origin, distribution, physical properties and classification of soils ; *Reclamation of lands*—forest clearing—stumping, stoning, fallowing, &c.

Preparation of the Land for Crops.—Ordinary operations of tillage—ploughing, harrowing, cultivating, rolling—subsoiling, levelling—general cultivation most appropriate for the various kinds of soils.

Succession of Crops.—Importance and necessity of rotation—principles thereof—rotations suitable for various soils ; crops—root, forage, cereal—treated with reference thereto.

Cultivation of Crops.—The various crops ; *Cereals*—wheat, oats, barley, &c. ; *Leguminous*—peas, beans, &c. ; *Roots*—turnip, carrot, potato, &c. ; *Forage or Herbage*—tare, lucerne, clovers, grasses, flax, hemp—cultivation most appropriate for each ; *Seeds*—purchasing—testing—preparing—changing ; *Sowing*—kind and quantity of seed—method of sowing ; *After Cultivation—harvesting—consumption*, or preparing for market—cost of production—laying land down to grass—management of grass and pasture land.

Improvement of Soils and Lands.—Improvement by thorough ordinary cultivation—subsoiling ; *Draining*—its value—principles—various methods of draining—formation—levelling for—materials used in formation—cost and remuneration ; *Manuring*—farm-yard manuring ; Application, uses and properties of *artificial manures*—lime, plaster, salt, bones, superphosphate, nitrate of soda, &c., &c.

Breeding, Rearing and Feeding of Animals.—Horses suited for agricultural purposes—various breeds—breeding—feeding, and general management ; *Cattle*—characteristics of the various breeds—Shorthorns, Herefords, Devons, Ayrshires, &c.—methods of breeding—cross breeding—in and in breeding—pedigree system—rearing young stock—the fattening process—relation of food to increase—dairy management, butter and cheese management—the factory system—realization ; *Sheep*—characteristics of various breeds—long wools—medium wools—short wools—breeding and management of ewe flock—winter and spring feeding—rearing of lambs—relation of food to increase ; wool—texture—quantity and quality—dipping and salving—quantity maintained per acre ;—*Swine*—characteristics of the various breeds—breeding and management of sows—stores—fattening—relation of food to increase—bacon curing ; *Poultry*—characteristics of the various breeds—general management.

Implements of the Farm.—Mechanical principles entering into their construction ; ploughs—harrows—cultivators—other tillage implements—sowing machines—grass seed and manure distributors ; mowing and reaping machines ; hay making and harvesting machines—threshing and dressing machines ; barn implements ; waggons—sleighs—carts ; straw cutters—turnip cutters and pulpers ; implements used in stock feeding—common—steaming ; implements of less general use.

General Economy of the Farm.—Laying out a farm—formation and management of roads and lanes ; *Fences*—varieties—position—mode of construction—materials—moveable fences—hurdles ; *Hedges*—varieties—methods of planting—after cultivation ; *Buildings*—dwellings, out-buildings, stables, barns, sheds—principles of construction—plans and specifications.

General Business of the Farm.—Capital necessary—values and prices of land, stock, implements and improvements—value of all kinds of labour—making of inventories—keeping of stock and produce registers ; *Markets*—economical laws regulating them—customs affecting them—modes of buying and selling—common laws relating to agriculture—relation of agriculture to the other industries.

Arboriculture.—Application to the American continent—different kinds of trees—occurrence, habits, uses, values—value of timber as a crop—raising of trees from the seed bed—what parts of the country should be planted—planting operations—transplanting large trees—enclosing and draining planted ground—management of trees with a view to shelter and economy.

Miscellaneous Subjects.

II.—Science.

I.—Chemistry :

Chemical Physics.—Force and matter—correlation of force—properties of matter—gravity, cohesion, heat—light—magnetism—electricity ; forms of matter—liquids—solids—gases.

Inorganic Chemistry.—Scope of chemistry—atomic theory—chemical affinity—the *non-metallic* elements—oxygen—hydrogen—water, its nature—occurrence—functions—states, and decomposition—nitrogen—the atmosphere—ammonia—its source and important uses—oxides of nitrogen—nitric acid and its importance to plants—sulphur and its compounds—sulphuric acid, its manufacture and uses—phosphorus—the agricultural importance of phosphoric acid—carbon—silicon—flint—sand—silicates—chlorine—bromine iodine, &c. ; *The metals*—the alkalies—sodium—potassium—soda—salt ; calcium—lime—plaster—lead and its compounds ; iron—its ores and manufactures ; arsenic—its compounds and detection—gold, silver, platinum, tin, &c., &c.—occurrence and uses—alloys.

Organic Chemistry.—Scope of the division of the science—organic compounds derived directly or indirectly from plants and animals—artificial formation of organic compounds—classification of organic bodies and their complexity—determination of the empirical and rational formulæ of organic bodies ; *Wood spirit* and its derivatives—methyl compounds—chloroform acetic acid and its compounds—alcohol and the process of fermentation—constitution of oils and fats—manufacture of soap and candles ; *starch and sugar*, and other amyloids and glucoids—manufacture of sugar—tartaric, lactic, citric and mallic acids. The flesh-formers or albuminoids and their congeners ; *Essential oils and resins*—varnishes—petroleum ; *Vegetable Alkaloids*—quinine—strychnia ; aniline dyes ; urea and uric acid ; *Animal Chemistry. Vegetable Chemistry.*

Agricultural Chemistry.—History of the connection between agriculture and chemistry—the food of plants—the origin and nature of soils—analysis of soils—relation of different plants to the soil—composition of different crops—chemical changes during the growth of different plants—rotation of crops—manures, special and general—the composition of farm-yard manure—nature and analysis of guanos and superphosphates—other manures—feeding of animals—foods—ingredients of foods—relation of increase to composition of food—economy of food.

Practical Chemistry.—Chemical manipulation—the practical testing of waters—soils, foods, superphosphates, and other manures, and the preparation of the common gases and the common acids.

Analytical Chemistry.—Qualitative and quantitative analysis, especially the analysis of soils, manures and farm produce.

(a.) *Throughout all the courses, both of laboratory and experimental lectures, a constant endeavour is made to illustrate the principles of the pure science of Chemistry, on which the whole teaching is based by agricultural examples.*

II.—Natural History and Entomology.

Botany.—*Structural and physiological*—internal structure of plants—cells and vessels—construction and development of the external parts of plants—root—stem—leaf—flower—seed—fruit—Physiology of cells and vessels—chlorophyll, starch, gum, sugar, crystals, &c.—movement of fluids and gases—nutrition and respiration—reproduction—methods of fertilization—hybridization—varieties—propagation—budding—division ; diseases—of plants—smut—rust—mildew, &c.

Systematic and Economic Botany.—Special morphology and general classification of plants, flowerless plants—mosses—ferns—fungi, &c.; flowering plants—characters of larger divisions. The orders containing important agricultural and economic plants—the cereals—grasses—roots with geographical distribution—agricultural seeds and fruits.

Zoology.—Nature of life—vital force—differences between animals and plants—differences between different animals—morphology and physiology—definition of species—origin of species—classification—characters of the general classes and orders of the *Invertebrates*, with examples. Special study of *Infusoria, Scolecida, Annelida* and *Insecta*. General characters of the *Vertebrates*—the various orders, with morphological and physiological distinctions of each, illustrated by common examples. Special study of the families of the *Aves*, containing the insectivorous birds, and the families of the *Mammalia*, containing all the various farm animals. Comparative anatomy and physiology of farm animals.

Entomology.—Structure and physiology of insects—metamorphoses of insects—senses of insects—insects injurious to vegetation—to growing plants—to fruits—the apple, plum, pear, peach, small fruits, &c.

III.—Geology, Physical Geography, and Meteorology.

Geology.—Geological epochs—classification of rocks—structures—stratification—cleavage—foliation, dip, fault—denudation; elevation and depression of land; degradation of rocks by aqueous and atmospheric agencies—formation of soils—Canadian geology.

Physical Geography and Meteorology.—Connection between physical geography and geology—distribution of land and water—superficial configuration of Ontario—theory of wells and springs. *History and scope of meteorology*—weight of atmosphere—how ascertained—*barometer*—various kinds—manipulation; *Temperature*—how observed and calculated—*thermometer*—varieties, Fahrenheit, centigrade, &c.—use of each—manipulation; solar and terrestrial radiation—moisture of the atmosphere;—mists—fogs—clouds; rain—snow—hail; winds and storms; miscellaneous—causes affecting the climate—influence of climate on vegetation.

III.—English and Mathematics.

English.—*Review of past school work*—study of the etymological, syntactical, and rhetorical forms of the English language—history of its formation—elements entering into it—its connection with other languages. Analytical study of one of Shakespeare's plays, and of extracts from some of the other English classics each year. *English composition*—the sentence—the paragraph—rhetorical figures—their use and abuse—species of composition—qualities of style—varieties of style. Essay writing—familiar and business correspondence. *Political Economy*—wealth—labour—capital. Production—distribution—exchange—government—and the position that agriculture holds in each: relation of agriculture to all the other industries of a nation.

Mathematics.—*Arithmetic.—Review of past work in arithmetic, with special view to farm accounts*—tables of weights and measures—proportion—interest—discount—partnership—square and cube roots—*Mental Arithmetic, Mensuration*—the mensuration of every kind of surface, including the quantity of land cultivated by various machines—the surface occupied by different crops—the measurements of solids, including the contents of tanks, ditches, wells, manure heaps, walls—the material for roads—timber, &c. *Surveying* in its commoner branches—fields surveyed with the chain and cross—staff—heights and distances found by the use of the theodolite—levelling practised. *Mechanics*—methods for calculating the weights of different materials—the units of work performed by various agents in the execution of particular works—the strength of materials—the mechanical powers—friction—the steam engine, &c. Those parts of dynamics which have reference to agricultural machinery, such as centrifugal force—accumulated work.

IV.—Veterinary Science.

Anatomy and Physiology of the Domestic Animals.—Horse—ox—sheep—pig.—Osseous system—muscular system—syndesmology—planitar system—odontology—digestive system—circulatory system—respiratory system—urinary system—nervous system—sensitive system—generative system—tegumental system.

Veterinary Pathology.—Osseous system—giving the nature, causes, symptoms and treatment of the various diseases of bone, as splint—spavin—ringbone, &c.

Muscular system.—nature—causes—symptoms—and treatment of flesh wounds, &c.

Syndesmology—nature—causes—symptoms—and treatment of bog spavin—curb, and other diseases of joints.

Planitar system—nature—causes—symptoms—and treatments of corns—sand crack and other diseases of the foot.

Odontology—describing the diseases of the teeth; also the mode of determining the age of the animals of the same.

Digestive system—nature—causes—symptoms—and treatment of spasmodic and flatulent colic—inflammation of the bowels—acute indigestion—tympanitis in cattle—impaction of the rumen, and many other common diseases.

Circulatory system—describing the diseases of the heart and blood vessels.

Respiratory system—nature—causes—symptoms—and treatment of catarrh—nasal gleet—roaring—bronchitis—pleurisy—inflammation of the lungs, &c.

Urinal system—nature—causes—symptoms—and treatment of inflammation of the kidneys, &c.

Nervous system—nature—causes—symptoms—and treatment of lock-jaw—string halt, &c.

Sensitive system—nature—causes—symptoms—and treatment of the diseases of the eye and ear.

Generative system—nature—causes—symptoms—and treatment of abortion—parturition—milk fever, &c.

Tegumental system—nature—causes—symptoms—and treatment of scratches—sallenders—mallenders—parasites—and other diseases of the skin.

Materia Medica.—Giving the preparation, action, uses, doses, of over one hundred of the principal medicines used in Veterinary practice.

General Subjects.—The external form of the horse—thorough-breds—half-breed hunters—harness animals—draught animals. The external forms of stock—breeding—selection of animals—crosses—transmission of hereditary diseases; spavin—splints, side bones—ring bones—grease—blindness—roaring, &c., and their remedies—sterility—abortion—general management to produce successful gestation—parturition—natural and præternatural presentations—their treatment. The management of young stock—weaning—feeding—methods of preventing blood diseases. The feeling of animals—ventilation—water—stabling. The influence of climate upon animals.

Demonstration of Anatomy in the Dissecting Room.

A.—Horticulture.

Occasional lectures are all that as yet are given on this important subject.

IV.—COURSE OF APPRENTICESHIP.

The pupils will be daily distributed to each of the following departments :—

1. The Live Stock Department.
2. The Field Department.
3. The Horticultural Department.
4. The Mechanical Department.

They will be taught the manner of performing the various operations in each department by the Instructor or his Assistants in that department; and being distributed alternately to each, it is expected that at the end of two years a thorough apprenticeship will have been served.

The instruction received in the class-room will, as far as possible, be illustrated and exemplified in the fields, yards and shops. The following may be taken as a few of the operations, in the performance of which apprenticeship will be served:—

Field Department.—Cleaning harnessing and management of horses, ploughing—harrowing—cultivating—drilling—subsoiling—sowing broadcast and by drill—planting—hoeing and grubbing—haying by scythe and mower—harvesting by cradle and reaper—stoning—threshing—winnowing—marketing—draining—levelling—land measuring—stumping—logging—chopping, &c., &c.

Live Stock Department.—Cutting—pulping—steaming—mixing—feeding—cleaning—and general management of *cattle*. Feeding—lambing—shearing—castration—dipping—salving—hurdling—and general management of *sheep*. Feeding and general management of other stock and poultry.

Horticultural Department.—Digging—ploughing—raking—seeding—planting—hoeing—mowing—harvesting—storing—and general management of vegetables, flowers and lawn. Pruning—grafting—budding—mulching—cleaning—harvesting and storing—and general management of an orchard. General management of propagating houses, green houses, vinery, nursery, hedges, walks and roads, &c., &c.

Mechanical Department.—Planing—sawing—nailing—grooving—matching—morticing—framing and general use of commoner mechanical tools. Fencing—hurdle making—gate making—and management of general farm improvements. Repairs of all farm buildings, implements, machines, &c., &c.

V.—SESSIONS AND EXAMINATIONS.

For those taking the regular course there will be two Sessions in each year, a winter and a summer one. The former will commence on or about the first of October, the latter about the middle of April.

There will be a vacation at the end of each Session.

Examinations, which every student is required to pass, will be held at the close of the Session—in each inside Department, on the subject of Lectures in that Department for that Session; and in each outside Department, on the work of that Department for the Session.

For those taking the special course there will be but one Session—the Winter Session extending from the first of October to the end of March. To those who pass the requisite examinations, not only on the regular studies, but on the special ones likewise, this Session shall count as a year, and shall be so designated. Or if they so desire it, students taking the special course can remain from the 1st of October to the 30th June, counting those nine months as a scholastic year.

VI.—DIPLOMAS AND DEGREES.

A diploma will be given to each student who completes his course of study, and passes satisfactorily all examinations, both on the subjects contained in the curriculum, and on the operations in the course of apprenticeship. Arrangements are being made, whereby diplomas or degrees so gained, will be issued by the University of Toronto.

VII.—RESIDENCE; LABOUR; FEES; REMUNERATION.

It is desirable that all students taking the regular course should reside in the building. As the town, however, is distant but a mile and a half, they may board in the town, and attend the Lectures, or go through the usual routine.

The number of hours of labour for regular students will vary with the seasons, but the arrangements will be such that an annual daily average of not more than five hours will be obtained and enforced, in the case of all matriculated students.

Tuition will be free.

Board and washing will be charged at cost.

For skilled work faithfully and zealously performed, payment at the rate of ten cents an hour will be made—for all other in proportion.

By this arrangement the cost of education will be reduced to a minimum. To a farmer's son, able and willing, with moderate experience in farm work, the cost should be little or nothing, and in no case should it be more than fifty dollars per annum.

Farmers' sons intending to be farmers, or others engaged in that occupation, who take the special course, will attend during the Winter Season only, and will reside either in the building or in the town, as circumstances may permit. For such students tuition will be free. Board and washing will be charged at cost rates. No opportunity of defraying the expenses can be promised to those taking the special course, but if work should require to be done, the same rates of payment will be observed as have been previously mentioned.

Experience has shown that under this arrangement the cost for a year to a farmer's son fairly skilled is about $25; for the special course of nine months about $30, and for the special course of the six winter months about $40. The skill of all other classes of students varies so much that no sum can be fixed for them.

VIII.—A.—GENERAL RULES.

I.—Students are Required

1. To render cheerful and willing obedience to orders.
2. To conduct themselves in a gentlemanly and orderly manner at all times.
3. To avoid all noisy or boisterous conduct in or about the building.
4. To observe neatness of dress at prayers, meals and lectures, and tidiness in their rooms.

II.—The Following Practices are Absolutely Forbidden:—

1. Profane swearing, improper language, and gambling.
2. Use of intoxicating liquors, cards, or fire-arms.
3. Use of tobacco while on detail, in or about the building, or in any place except in the smoking room.
4. Entering the domestic apartments without permission.
5. Absence without leave.

B.—GENERAL REGULATIONS.

1. The students who reside in the building will be under the charge of the President.
2. Each student, upon entrance, shall sign a declaration that he will conform to the rules and regulations of students.
3. A register shall be kept of the attendance of students at prayers, work and lectures.
4. All students shall attend morning and evening prayers, unless exempted from doing so, in consequence of the objection of their parents or guardians.
5. They shall regularly attend their respective places of worship on Sabbath forenoon.

6. No student shall be absent from the Institution after the time of evening prayers, except by permission of the President.

7. Students will be furnished with everything in the shape of furniture, bedding, towels, &c., that may be requisite, but each will be accountable for every such article placed at his disposal.

8. A deposit of five dollars will be required on entrance, to meet everything in the way of breakage.

9. Every student damaging or breaking anything is required to report the same, that the value of the repairs be charged to his account.

10. The morning bell shall be rung at 5.30 a.m. ; bell for morning prayers, at 6 a.m. ; breakfast, at 6.30 a.m. ; farm bell at 7 a m. ; school bell, at 9 a.m. ; farm bell, at 12 noon ; dinner, at 12.30 p.m. ; farm and school bells, at 1.30 p.m. ; farm and school bells, at 4.30 p.m. ; tea, at 5 p.m. ; school bell, at 7.30 p.m. ; bell for evening prayers, at 9 p.m. ; lights out and doors closed at 9.30 p.m.

11. The President is authorized to impose fines and other penalties, for the infraction of rules and regulations.

12. No student whose moral conduct, industrial or intellectual progress is unsatisfactory to the staff, will be allowed to remain at the Institution.

IX.—GENERAL REMARKS.

A few general remarks on the appliances and advantages possessed by this Institution for training young men for agricultural pursuits, may, in conclusion, be given.

Classes of Students.

There are in our Province, as a general rule, at least three classes of young men whom an Institution of this kind can benefit. The first class are those who, from our cities and towns, or from other countries, with or without a small capital at their command, desire to obtain the necessary apprenticeship. The second class is farmers' sons, or the sons of those closely connected with that occupation, who wish to complete their education before commencing their life-work. Both of these are provided for in our regular course. And lastly, there are farmers' sons or others engaged in farming who cannot possibly remain during the summer months, but desire to obtain an agricultural education. These are provided for in the special course. By taking that course they can overtake the studies of the Institution, and be back on their own farms to commence their spring work, returning again in the fall.

Teaching Appliances on the Farm.

The farm itself is being gradually laid out, cleaned and drained, and the students assist in those operations. The best and most approved of the various farm implements and machinery are used. The possession of six breeds of cattle, five of sheep, three of swine, and ten of poultry, is in itself an important advantage for the purpose of instruction. Besides this, there are in the immediate neighbourhood over a score of different herds, and they are regularly visited. In the adjacent town, monthly fairs, fat cattle shows, and a central exhibition are held. All of those are visited by the students, who regularly report. It is expected that this summer a cheese factory and a dairy, on a small but complete scale, will be furnished. These appliances speak for themselves.

Experiments.

A portion of the farm has been laid out in experimental fields and plots, and regular systematic experiments, with varieties of grasses, cereals and roots, with different manures and different modes of cultivation, are being carried on. In these the second year students, as far as practicable, are engaged. Besides these field experiments, others in the feeding of

live stock, to test the various kind and preparation of food, are, during the winter season, engaged in. The value of such experiments to the agricultural interest in the Province need not be pointed out. The discovery of one or two thoroughly successful varieties of wheat, oats, and peas, would not only cover all expenses, but pay for the place itself in a couple of years by their value to the country. Without mentioning this, however, it will be seen that the second years' students are trained in the modes of carrying out experiments.

Teaching Appliances in the School.

These are constantly being added to, although in ths meantime they are not so numerous as might be desired. Especially is the want felt in the Department of the Professor of Chemistry, for as yet there is but a small working laboratory in connection with the Institution. Appliances are usually in a school the growth of years, and with four teachers—masters of their subjects—the College may be said to be fairly equipped.

Veterinary Department.

This most important department has been fairly started. A class room and a dissecting-room have been built, and are in operation, and it is expected that during the present year an infirmary will be fitted up. Arrangements are being made whereby the course at this Institution will be accepted as equivalent to a year's attendance at the Ontario Veterinary College.

Library, Museum, and Reading Room.

The library is well selected, and, though small, is being constantly augmented. A museum is being established. Already it contains some fifteen hundred samples of grains, grasses, woods, wools, flax, and hemp, together with between three and four hundred specimens of insects injurious to vegetation. And it is continually increasing. The reading-room is furnished with daily and weekly newspapers, with some half-dozen general, and the leading agricultural periodicals, of Canada, the United States, and Great Britain. A few additions are likewise made by the Literary Society.

Advantages of the Course.

Besides becoming fairly skilled in the various operations of a farm, the student takes part in the cultivation of a garden, and learns all garden operations. He acquires likewise skill and knowledge in the use of tools, so th t he is not only able afterwards to make his own repairs, but knows well when any such work is properly done. He sees for himself the thorough working of a farm, the effects of various rotations and different modes of cultivation, and becomes acquainted on the experimental ground, and in the class-room, with many varieties of grasses, grains, roots, and manures. The different breeds of cattle, sheep, swine, and poultry, of common use in Canada, become familiar to him from daily contact with them; and the excellencies and defects of each he learns by lectures in the class-room, and reference in the yards. He is taught the method of keeping live stock registers, accounts of field cropping, and regular farm accounts. By personal observation he learns the routine of auction sales of farm stock and produce, of ordinary fairs and stock markets and of the common grain market. He becomes acquainted with the prices of stock, implements, produce, building and improvements, and is prepared to perform the *business* of a farm. He obtains in the Veterinary department a knowledge of the structure and functions of farm animals, and the most approved methods of preventing and treating the ordinary diseases to which such animals are liable. And the study of the relations of the plant, the soil, and the animal to each other, and to his profession under the names of Botany, Chemistry, &c., not only opens out to him the reasons for the rules of the best farm practice, and enables him afterwards to discover other such rules, but it likewise forms in him intellectual habits of reasoning correctly, systematically, and thoroughly, which cannot fail in after-life to make him as well a better citizen as a better farmer. And, lastly, by this, as well as by the teaching in the class-room, by reading the standard works in the library, and the newspapers and periodicals in the reading-room, by contact with his fellow students, and by discussions carried on with them in their Literary

Society, his mind will be sharpened, strengthened, and widened, his power of thinking and ability to express his thoughts greatly increased ; and, learning the true relation of his business to all the other industries of the country, he will be enabled in after-life to take that influential position which the importance of his occupation imperatively demands. If the student be careless, thoughtless, or lazy, few of those advantages will be reaped ; but if he be attentive, energetic, and diligent, the majority of them will undoubtedly be appropriated.

BRIEF PROSPECTUS

OF THE

Ontario Agricultural College.

I.—GENERAL DESCRIPTION.

This Institution, technically called the "Ontario College and Experimental Farm," is situated about a mile to the south of the Town of Guelph, in the County of Wellington. The Farm, a small portion of which is shown by the frontispiece to the Farm Superintendent's Report, consists of 550 acres, about 475 of which are under cultivation. On it is situated the necessary barns, stables, sheds, shops and greenhouses, together with the College Buildings, a wood cut of which appears as a frontispiece to this Report. The latter at present give ample accommodation, besides the necessary class-rooms, &c., for eighty resident students; and, when fully completed, one hundred and twenty are expected to reside within the walls.

II.—OBJECTS OF THE INSTITUTION.

The objects aimed at by its establishment are :—

First.—To give a thorough mastery of the theory and practice of husbandry to young men of the Province engaged in agricultural or horticultural pursuits, or intending to engage in such.

Second.—To conduct experiments tending to the solution of questions of material interest to the agriculturists of the Province, and publish the results.

III.—TERMS OF ADMISSION.

Any ratepayer, or the son of any ratepayer, in Ontario, has the right of admission on the following conditions :—

1. He must be of the full age of fifteen years, and must produce certificates—as to moral character ; as to physical health ; as to educational attainments ; as to the assent of his parents or guardians ; and as to his own intention to follow Agriculture or Horticulture as an occupation.

2. He must pass an entrance examination on the following subjects:—Reading, Writing, Spelling, English Grammar (analysis and parsing of simple sentences), Arithmetic (to proportion), Outlines of General Geography, and Geography of the Dominion of Canada.

3. The candidate should have, at least, either passed the entrance examination to some High School, or have been in the fifth class of a good Public School before applying. Those who are skilled in farm operations, but very much behind in elementary education, will be allowed to enter the School Preparatory Year. Those who have a fair education, but are unskilled in farm operations, will be allowed to enter the Farm Preparatory Year. Farmers' sons, or others engaged in farming, are allowed to enter for six months, which counts a year, as hereinafter explained.

IV.—COURSE OF STUDY.

The regular course for matriculated students is one of two years, although there is a special course of two Winter Sessions. The following are the subjects of study:—

First Year.—Practical Agriculture, Veterinary Anatomy, Veterinary Materia Medica, Physical Geography, Chemistry, Botany, Zoology, Geology, English and Mathematics.

Second Year.—Agriculture and Horticulture, Veterinary Pathology, Veterinary Surgery and Practice, Agricultural Chemistry, Economic Botany, Entomology, Meteorology, Book-keeping, Levelling and Surveying, English Literature.

School Preparatory Year.—Arithmetic, Grammar, Geography, History, Reading, Spelling, Writing and Correspondence.

Farm Preparatory Year.—English and Mathematics, Farm and Garden Apprenticeship, School Instructions on Farm Operations.

V.—COURSE OF APPRENTICESHIP.

This is gained by the students doing the work of the Farm, in all its departments; and being taught the various operations by the Instructor or his Assistant in each. These departments are four in number, viz. :—

Field Department, Live Stock Department, Horticultural Department, and Mechanical Department.

VI.—SESSIONS: EXAMINATIONS: DIPLOMAS: DEGREES.

There are two Sessions in each year, and two terms in each Session. The Winter Session opens on the 1st of October, and closes on the 31st March; the Summer Session opens on the 15th of April, and closes on the 31st of August.

Written examinations are held at the end of each month, and final ones at the close of each Session.

A Diploma will be given to each student who completes his course of study, and passes satisfactorily all examinations outside and in. Arrangements are being made whereby this College may be affiliated to the University of Toronto, and all Diplomas and Degrees therefore issued by the latter.

VII.—RESIDENCE: FEES: LABOUR: COST: INCIDENTAL.

Students may board in town, but it is desirable that all, if possible, should reside in the College Boarding House.

An annual daily average of five hours of labour will be obtained and enforced in the case of all regular students. For skilled work, faithfully and zealously performed, payment at the rate of ten cents an hour will be made; for all other in proportion.

The cost for a Session or a year cannot be expressly given, as will be understood when the system pursued is considered. Tuition is free; and board and washing are charged at

cost. A regular ledger account is kept with each student. He is debited with his board and washing at cost, and credited with his labour at so much an hour. Our three years' experience has shown us that board will average about $2.15 a week, and washing about 30 cents a dozen; and that a year's education will cost, according to the skill of the pupil, from $12 to $60 per annum. Indeed under the present arrangement, a farmer's son, vigorous and energetic, will almost pay his way.

The student is furnished with everything in the shape of furniture, bedding, towels, &c.—everything, in fact, but his personal clothing and books. A deposit fee of $5, returnable, is required on entrance to cover everything in the way of breakage.

The rules and regulations, which are very strict, can be furnished on application.

VIII.—TEACHING APPLIANCES OF SCHOOL AND FARM.

These consist of a farm of 550 acres, with the necessary buildings thereon, the latest and most improved implements, experiments of all kinds, six breeds of cattle, five of sheep, three of swine, and ten of poultry, together with gardens, shrubberies, greenhouses, shops and yards. In the College building are the necessary class-rooms, laboratory, dissecting room, museum, library and reading rooms.

The STAFF are as follows:—W. JOHNSTON, M.A, *President and Professor of Natural History English and Mathematics;* W. BROWN, ESQ., *Professor of Agriculture and Farm Superintendent;* J. H. PANTON, M.A., *Professor of Chemistry;* E. A. A. GRANGE, V.S., *Professor of Veterinary Science and Practice;* JAMES STIRTON, *Instructor in Farm Department;* JOHN F. BARRON, *Instructor in Horticultural Department;* and JAMES MCINTOSH, *Instructor in Mechanical Department.*

A.—SPECIAL COURSE FOR FARMERS' SONS.

Farmers' sons working on their fathers' farms, or others engaged in farming, desiring to improve their education without remaining the whole year, can enter upon a special course. They can attend during the Winter Session only, and by constant study overtake the year's school work. Being thus away only from the 1st of October until the 31st of March, they can overtake the spring, summer, and most of the fall work at home, and yet obtain a thoroughly good education. Or if they desire it they can remain from the 1st of October until the 30th June, returning home for the harvest months. The total cost for the six months will be between $25 and $40; for the nine months, between $20 and $30, and this includes tuition, board, washing and incidentals. In either case, if the examinations are successfully passed, the time will be counted as a regular year for the Diploma or Degree.

CONCLUSION.

From the foregoing it will be seen that the times in the year for entering students are two in number—at the beginning of the Winter Session, on the 1st of October; and at the commencement of the summer Session on the 15th of April. The next Session opens on the 3rd of October. For full information, and for forms of application, address

W. JOHNSTON,
President, Agricultural College, Guelph.

AGRICULTURAL COLLEGE,
Guelph, Ontario, September, 1878.

3. TIME TABLE FOR WINTER TERM OF THE WINTER SESSION OF 1878-9.

The following will be the order of Lectures and work for the Winter Term of the Winter Session of 1878-9.

SECOND YEAR (Regular and Special Divisions).

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8-9	Study or Drill	Study or Drill	Study or Drill	Study or Drill	Study or Drill	Half Holiday.
9-10	Agricultural Chemistry	Entomology	Agricultural Chemistry	Entomology	Agricultural Chemistry	
10-11	Mathematics	English	Mathematics	English	Agriculture or Book-keeping	
11-12	Vet. Pathology	Agriculture	Vet. Pathology	Agriculture	Vet. Pathology	

SECOND YEAR (Regular Division).

Hours.	Monday.	Tuesday.	Weduesday.	Thursday.	Friday.	Saturday.
1.30-2	Work	Work	Work	Work	Work	Work
2-3	Work	Work	Work	Work	Work	Work
3-4	Work	Work	Work	Work	Work	Work
4-5	Work	Work	Work	Work	Work	Work

SECOND YEAR (Special Division).

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
1.30-2	Study	Study	Study	Study	Study	Study
2-3	Study	Study	Study	Study	Study	Study
3-4	Ec. Botany & Prac. Chem.	Ec. Botany & Prac. Chem.	Study	Study	Ec. Botany & Prac. Chem.	Study
4-5	English & Mathematics	English & Mathematics	Mat. Medica	Agriculture	English & Mathematics	Study

SECOND YEAR (Regular and Special Division).

P.M. 7-9	Study in class room under charge of Resident Master.

FIRST YEAR (Regular Division).

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
7.30-9	Work	Work	Work	Work	Work	Work
9-10	Work	Work	Work	Work	Work	Work
10-11	Work	Work	Work	Work	Work	Work
11-12	Work	Work	Work	Work	Work	Work

FIRST YEAR (Special Division).

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
7.30-9	Study	Study	Study	Study	Study	Study
9-10	Study	Study	Study	Study	Study	Study
10-11	Study	Study	Geology	Geology	Geology	Study
11-12	Agriculture	Materia Medica	English & Mathematics	English & Mathematics	English & Mathematics	Study

FIRST YEAR (Regular and Special Divisions).

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
1.30-2	Study	Study	Study	Study	Study	Half Holiday.
2-3	Chemistry	Chemistry	Chemistry	Chemistry	Chemistry	
3-4	Zoology	English	Zoology	Mathematics	Book-keeping	
4-5	Agriculture	Vet. Anatomy	Agriculture	Vet. Anatomy	Agriculture	

FIRST YEAR (Regular and Special Divisions).

P.M. 7-9	Study in class room under charge of Resident Master.

PREPARATORY YEAR.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
7.30-9	Study or Drill	Study or Drill	Study or Drill	Study or Drill	Study or Drill	Half Holiday.
9-10	Arithmetic	Arithmetic	Correspondence & Dictation	Arithmetic	Arithmetic	
10-11	Grammar	Agriculture	Grammar	Agriculture	Grammar	
11-12	History	Geography	History	Geography	Correspond-ence & Dictation	

PREPARATORY YEAR.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
1.30-2	Work	Work	Work	Work	Work	Work
2-3	Work	Work	Work	Work	Work	Work
3-4	Work	Work	Work	Work	Work	Work
4-5	Work	Work	Work	Work	Work	Work

PREPARATORY YEAR.

P.M. 7-9	Study in class room under charge of Resident Master.

APPENDIX C.

EXAMINATION PAPERS.

EASTER, 1878.

Second Year.

PRACTICAL AGRICULTURE.

Examiner: W. BROWN, ESQ.

1. Give a general idea of the science and practice of Arboriculture.
2. In pastoral, dairy, grain, root and mixed farming, what generally distinguishes each as regards soils, implements, live stock and crops?
3. Sketch and describe a model arrangement of buildings for mixed farming.
4. Give ten reasons in favour of Fall ploughing.
5. What crops, and under what conditions of soil and climate generally are vegetable, animal and mineral manures best applied?
6. Distinguish between tillage and cultivation proper, giving detail examples throughout a season in mixed farming.
7. Minutely detail the management of a turnip crop from the first ploughing to harvesting.
8. Explain the daily treatment of our Fattening Stock, the kinds, quantities and values of food given, and estimate the financial result upon twelve steers thus managed · buying on 8th December at 3¼ cents, and selling on 10th April at 6 cents per lb. live weight, daily increase 3 lbs. per head, manure and attendance to be excluded.

FIRST YEAR.

PRACTICAL AGRICULTURE

(*First Paper.*)

Examiner: W. BROWN, ESQ.

1. Sketch the leading facts in the improvement of the Short Horn breed of cattle.
2. Taking the Short Horn breed as a standard represented by detail points in our judging papers, give the corresponding values that generally characterise the Hereford, Devon, Ayrshire, Galloway, and Aberdeen Polls.
3. Specify the different modes of breeding, and explain the character of the following assumed pedigree of a Shoat Horn Bull, saying how he would be received for the English and American Herd Book, and what relationship there is between *Dominion* (78) and *Goderich.*

ONTARIO SCHOOL OF AGRICULTURE (1878).

Red and White; Calved January 31st, 1874. Bred by Messrs. Swamp & Co., the property of All Nations.

SIRE. EXPERIMENT (3).						DAM. GUELPH THE 51ST.					
NECESSITY (382).			MIMICO.			PERTH (73).			VICTORIA.		
YORK (95)	ONTARIO LASS.		PEEL (89).	SIMCOE 6TH.		HURON (100).		ALGOMA.	CARLETON (85).		GREY.
WELLINGTON (17).	MERCURY.	TORONTO (220).	HAMILTON.	LINCOLN (111)	NORWICH.	DUNDAS (50).	AVONBACK.	LANARK (70).	OSHAWA.	HURON (60).	FOREST.	MONTREAL (8).	WALLBRIDGE.	PARENHAM (33)	ST. CATHARINES.
Dominion (78).	Puslinch.	Halton (53).	Whitby.	Oxford (65).	Brant.	Elgin (87).	Brownie.	Essex (44).	Pembroke.	Rama (77).	Alas.	Hastings (20).	Alwall.	Kent (15).	Whitie.
Wentworth (29).	Norwich.	Leeds (44).	Lindsay.	Bruce (10).	Aylmer.	Norfolk (6).	Orillia.	Glengarry (55.)	Whitevale.	Huntsville (13).	Sparta.	Actonvale (16).	Waterford.	Ottawa (1).	Goderich.

Goderich was by a thoroughbred Short Horn Bull, out of a Hereford Cow.

4. Describe the kind of Steer generally considered best for fattening.

5. In the winter management of Live Stock, how would you use straw, hay, Indian corn, turnips, mangolds, and oil-cake, to the best advantage?

6. Take the English Leicester as a standard, and compare our other long woolled breed of sheep with it.

7. What generally characterise those cows that give most milk.

8. Give the points of a general purpose horse, with reasons for the preference.

9. Give a full description of the accompanying sample of wheat.

10. Explain a rotation in cropping, with reasons for that adopted on this farm.

FIRST YEAR.

PRACTICAL AGRICULTURE.

(Second Paper.)

Examiner: W. BROWN, ESQ.

1. How are pastures best managed in cases similar to our own?

2. Describe a good system of sheep washing or dipping, on a small scale, with the objects aimed at by such a practice.

3. Sketch a board fence, give sizes of timbers, and detail estimate of cost per rod of 16½ feet.

4. Give detail estimate of the cost per acre of harvesting a wheat crop.

5. In selling cattle and sheep at market, what points have to be attended to, and why?

SECOND YEAR.

VETERINARY PATHOLOGY (HORSE).

Examiner: E. A. A. GRANGE, V. S.

1. Give a definition for Inflammation?

2. Name the symptoms and terminations of Inflammation.

3. Mention the different diseases of Bone.
4. Describe the nature, causes, symptoms and treatment of Bone Spavin.
5. " " " Splint.
6. " " " Sweeney.
7. " " " Corns.
8. " " " Laminitis.
9. " " " Spasmodic Colic.
10. " " " Conjunctivitis.
11. " " " Lymphangitis.
12. What is meant by Epizootic and Euzootic diseases?
13. What is the difference between Cerebritis and Meninitis?
14. What is Umbilical Hernia?
15. Describe the treatment for Hernia.
16. What is a Fracture.
17. Describe the treatment of Fractures.
18. Describe the nature, causes, symptoms, and treatment of Nephritis.
19. What are the symptoms of dislocation of the Patella?

SECOND YEAR.

CATTLE PATHOLOGY.

Examiner: E. A. A. Grange, V S.

1. What is Enchondroma?
2. Name the diseases of the stomach of the Ox.
3. What kind of food produces Tympanitis?
4. What are the symptoms of choking, and how is it relieved?
5. Describe the nature, causes, symptoms of impaction of the Rumen.
6. Describe the nature, causes, symptoms and treatment of impaction of the Omasum.
7. Describe the nature, causes, symptoms and treatment of white scour in calv
8. Describe the nature, causes, symptoms and treatment of Mammstis.
9. Describe the nature, causes, symptoms and treatment of Osteo Sarcoma.
10. Describe the nature, causes, symptoms and treatment of Sturdy in Sheep.
11. Describe the nature, causes, symptoms and treatment of Pneumonia.
12. Describe the nature, causes, symptoms and treatment of Bronchitis.

SECOND YEAR AND SPECIAL DIVISION OF THE FIRST YEAR.

VETERINARY MATERIA MEDICA.

Examiner: E. A. A. Grange, V. S.

1. What does the materia medica treat of?
2. Mention the circumstances which modify the actions of medicines.
3. What is meant by an antiseptic?
4. What is meant by a disinfectant?
5. What is meant by a caustic?
6. What is meant by a vesicant?
7. What is meant by a suppurant?
8. What is meant by an astringent?
9. What is meant by an anæsthetic?
10. What is meant by a tonic?
11. Mention the actions, uses and doses of aloes for horse.
12. Mention the actions, uses and doses of cantharides for the horse.
13. Mention the actions, uses and doses of chloroform for the horse.
14. Mention the actions, uses and doses of cinchona for the horse.

15. Mention the actions, uses and doses of sulphate of magnesia for the ox.
16. Mention the actions, uses and doses of sulphate of iron for the ox.
17. Mention the actions, uses and doses of linseed oil for the ox.
18. Mention the actions, uses and doses of laudanum for the ox.
19. Mention the uses of acetate of lead as an external application.

FIRST AND SECOND YEAR.

VETERINARY ANATOMY.

Examiner: E. A. A. Grange, V. S.

1. Name the different classes into which bones are divided, and give an example where each class is found.
2. Name the bones forming the trunk of the horse.
3. Describe the difference between the trunk of the horse and ox.
4. Describe the difference between the bones of the fore leg of the ox and horse.
5. Mention the structures entering into the formation of a joint.
6. Mention the three classes into which joints are divided, and give an example of each class.
7. Mention the various processes of digestion and where each process is performed.
8. What is the function of the liver ?
9. Name the layers entering into the formation of the skin.
10. Mention the sensitive structures entering into the formation of the foot.
11. Mention the organs of circulation.
12. Describe the course of the blood through the heart.
13. What three classes are the teeth divided into ?
14. What is the difference between the incisor teeth of the ox and horse?
15. Describe the changes which take place in the incisor teeth of the horse from birth to eight years old.
16. Describe the difference between the stomach of the ox and horse.
17. What parts is the brain divided into ?
18. What are the nerves called which control involuntary action ?
19. What class of muscles move the body ?
20. What is the common name for mucular tissue ?

SECOND YEAR.

AGRICULTURAL CHEMISTRY.

Examiner: P. H. Bryce, M. A.

1 (*a*). Under what divisions may the subject of Agricultural Chemistry be considered ?

(*b*). State, as given in your "notes," the "sub-divisions of the part," "soils in relation to production."

2 (*a*). By reference to the structure of plant, show that plants are capable of receiving food only in the states of liquids or gases.

(*b*). Show the elements most important as plant food, by reference to the organic and inorganic compounds found in plants.

3 (*a*). Describe Boussingault's experiments, proving (1) that plants absorb $\frac{3}{4}$ of the C O_2, from the air surrounding them; (2), that $\frac{2}{3}$ of the C found in plants is obtained from air.

(*b*). Why is C so necessary to plant development ?

4 (*a*). Give facts and experiments proving that N H_3 is taken into the plant from the air.

(*b*). State reasons for the importance of N as plant food, and give some of its principal sources.

5 (*a*). Describe the part performed by $C O_2$ in the decomposition of rocks and soils.

(*b*). How is insoluble $S O_2$ rendered available as plant food?

6. Liebig states "that the development of a plant depends largely on its first radication." Base on the foregoing arguments for :

(*a*). (1), Use of good seed ; (2), Use of easily available manures.

(*b*). (1), Fine tillage ; (2), Thorough drainage.

7. "Different classes of plants vary greatly in the length of roots." "Different classes of plants vary greatly in the amounts of constituents they take from the soil."

Base on the above statements arguments for "rotation of crops"—illustrating fully by examples.

8 (*a*). Show fully why a good clover crop is generally followed by a good wheat crop?

(*b*). From the analysis of the ash of peas, show that calcareous soils are best for leguminous crops.

9 (*a*). Describe the process by which swamp muck can be most beneficially and economically prepared as a manure.

(*b*). State the requisites of a good "superphosphate," and how it may be readily prepared.

10 (*a*). State how the immediate value of a superphosphate may be tested.

(*b*). How may the presence of $H_2 So_4$, $Ca Co_3$, and $F_2 O_3$ soil be detected.

SECOND YEAR.

ORGANIC AND ANIMAL CHEMISTRY.

Examiner : P. H. Bryce, M. A.

1 (*a*). Define the term "Organic Chemistry."

(*b*). On what peculiarities of C does its importance in Organic Chemistry depend?

2 (*a*). State the general formula of the "Alcohols," and show how their corresponding acids are derived from them.

(*b*). Write the formulas for *Methyl*, *Ethyl*, and *Amyl* Alcohols, and give their corresponding commercial names.

3 (*a*). Describe the changes, and give the preparation of Ethyl Alcohol, from compounds containing starch.

(*b*). Give the formula, properties and mode of preparation of Chloral.

4 (*a*). On what properties does "fractional distillation" depend, and in what important manufacture is it largely carried on?

(*b*). Name some of the most important commercial substances obtained from "Coal Tar."

5 (*a*). Give the formula, preparation and properties of Aniline.

(*b*). Give the formula, preparation and properties of Carbolic Acid.

6 (*a*). Give the chemical changes undergone in the formation of any soap. Illustrate by an example.

(*b*). Give the general formula for the "Turpenes," and describe the preparation and properties of Spirits of Turpentine.

7 (*a*). Give the formula and commercial names of Amylose, Glucose, and Sucrose.

(*b*). Describe the preparation of Cane Sugar.

8 (*a*). Name the various stages in the digestive process at which the food is acted upon by the juices of the body, and the part played by each.

(*b*). Give the constituents, according to analysis, of gastric juice.

9 (*a*). Name some of the principal nitrogenous substances found in the animal body.

(*b*). Into what two classes are foods divided?

10 (*a*). Give the requisites of a perfect food.

(*b*). Give one or two examples of such foods for cattle—referring to the proportions of their principal constituents.

FIRST YEAR.

CHEMISTRY.

Examiner: P. H. Bryce, M. A.

1 (*a*). Define the term "matter."

(*b*). State the various properties of matter, and define "Inertia," specific gravity, cohesion, and ductility.

2 (*a*). Show by example how we may find the specific gravity of solids.

(*b*). Define capillarity, and illustrate its action by examples.

3 (*a*). State the "law of expansion of gases." Give examples illustrating it.

(*b*). How may liquids be shown to be poor conductors of heat.

4 (*a*). State the chief differences between a "Mechanical mixture" and a "Chemical compound."

(*b*). Show that in any "Chemical compound" the different elements are always present in unvarying proportions, by reference to "Calcium Carbonate," "Barium Sulphate," and "Potassium Nitre."

5 (*a*). Describe the occurence, preparation and properties of Hydrogen.

(*b*). Name the three classes of Oxides, giving examples of each, and show wherein they differ.

6 (*a*). Give the modes of occurence, preparation and properties of nitrogen (N).

(*b*). Give two commercial sources of ($N H_3$); name the principal Ammonia salts, and give the preparation of $H N O_3$.

7 (*a*). Describe the preparation and properties of bone charcoal and $C O_2$.

(*b*). Describe the modes of occurence and preparation of P and $P H_3$.

8 (*a*). Describe the preparation and properties of H C I, and Iodine.

(*b*). Give the modes of occurrence of $S I O_2$, and show how it may be rendered soluble.

9 (*a*). Give the preparation, properties and uses of K H O, and $K N O_3$

(*b*). Give the sources of "common lime," "water-lime," and chemically pure quick-lime.

10 (*a*). Describe the preparation of "wrought iron" and "steel" from "cast iron," and show wherein they differ from one another.

(*b*). Show by formulas the chemical changes in the reduction of Pb from Galena, and describe Pattenson's process for the extraction of Ag from Lead.

SECOND YEAR.

METEOROLOGY.

Examiner: P. H. Bryce, M. A.

1 (*a*). On what principle does the barometer indicate the moisture of the atmosphere.

(*b*). Describe Adie's marine barometer.

2 (*a*). What qualities are necessary in a good thermometer?

(*b*). What causes may affect the true reading of the thermometer? Supposing a thermometer indicated a temperature of 70° F, what would be the true reading?

3 (*a*). Describe a "minimum thermometer," and state its most common course of error?

(*b*). Where should it be placed so as to indicate most exactly the amount of frost during the night? Give reasons for your answer.

4 (*a*). How do forests exert important influences on climate?

(*b*). Describe some of the more important effects, as seen in Canada.

5 (*a*). "The specific heat of a substance is the number of units of heat required to raise the temperature of one pound through one degree." Show how this goes to explain the fact that the fruit trees on lands lying along our lake-shores are less injured by early frosts than those farther inland.

6 (*a*). "Statistics prove that the average annual snow-fall has increased in Canada since 1840." What theory goes to explain the fact.

(*b*). State wherein its known beneficial effects on winter plants, during late years, have been largely neutralized. Suggest any remedies.

7 (*a*). Explain the occurrence of frost on *calm, clear* nights, frequently after warm days.

(*b*). State in what localities frost, under such circumstances, will least frequently occur. Give reasons for your answer.

8 (*a*). Explain the principle on which the "dry and wet bulb thermometer" act as a hygrometer.

(*b*). Determine the "dew-point" where the

Dry bulb thermometer = 60° F
Wet bulb thermometer = 53° F
Factor of 63° F = 1.88.

(*c*). State why its determination is so important to the horticulturist.

9 (*a*). Describe the various kinds of clouds.

(*b*). Give some of the most important facts in connection with clouds as "weather inicators."

10 (*a*). Define the term "storm," and give the causes, and the most important phenomena attendant upon storms.

(*b*). Describe the course and general phenomena of the more extensive storms of North America.

SECOND YEAR.

ECONOMIC BOTANY AND ENTOMOLOGY.

Examiner: P. H. Bryce, M.A.

1 (*a*). What are the principal points to be considered in a natural classification of plants

(*b*). Give the classification of plants now generally adopted.

2. Give the characteristics of the order "Cruciferæ," and name three genera included under it.

3. Give the characteristics of the order "Leguminosæ," and name three genera included under it.

4. Give the characteristics of the order "Graminaceæ," and name three genera included under it.

5. Describe minutely the morphology of Dactylis (Orchard Grass), and Triticum vulgare (wheat).

6. Describe the mouth of a typical insect, and give any known modifications of the type.

7. Describe the development and habits of the Codling Moth (Carpocapsa Pomonella), and the principal remedies for the ravages of its larva.

8. Describe the habits of the Vapourer Moth (Orgyia Leucostiquia), and the remedies for the ravages of its larva.

9. Describe the development and habits of the common "gooseberry" saw-fly (Nematus Ventricosus,) and describe remedies for the ravages of its larva.

10. Describe fully the development and habits of the Hessian Fly (Cecidomya Destructor), and the principal remedies for the ravages of its larva.

FIRST YEAR.

STRUCTURAL AND PHYSIOLOGICAL BOTANY.

Examiner: W. Johnston, M. A.

1 (*a*). Show the relation of Botany to the other Physical Sciences.

(*b*). Give its divisions.

(*c*). Define Structural, Physiological and Economic Botany.

2 (*a*). All plants have their origin from, and grow by means of, cells. Prove the statement.

(*b*). Give the structure of a cell.

(*c*). Name the varieties of vessels, describing particularly the lactiferous vessels.

3. Describe concisely the structure and physiology of the root.

4 (*a*). Enumerate the varieties of stem.

(*b*). Give the parts in order of an Exogenous stem.

(*c*). Show how the stem grows from the bud, and name the varieties of the latter.

5 (*a*). Describe the structure of a leaf, and explain the part it takes in the nutrition of the plant.

(*b*). Name the varieties of the simple leaf, taking as a basis the general shape.

6 (*a*). Name the whorls of a flower.

(*b*). Describe the parts of each whorl.

(*c*). Show how a flower performs its functions of reproduction.

7. Describe the parts of the seed, and give a botanical list of the fruits.

8. Describe the solid, liquid and gaseous contents of cells and vessels, showing how they are obtained from the soil, and elaborated in the plant.

9. Name the processes of nutrition, and describe particularly circulation.

10. (*a*). Name the commoner classes of plants.

(*b*). State the causes, symptoms and treatment of smut, mildew, and dry-rot.

FIRST YEAR.

ZOOLOGY.

Examiner: W. JOHNSTON, M. A.

1. Define Zoology, and distinguish :

1. Inorganic from organic matter.
2. Animals from plants.
3. The principles on which animals are arranged with a view to classification.

2. Name the six great divisions of Zoology, and compare the first and the third ; the second and the fifth.

3. Compare the structure—

(1). Of a sponge and a coral.
(2.) Of an earth-worm and a caterpillar.
(3.) Of a sheep-tick and the liver-fluke of a sheep.
(4.) Of a lobster and an oyster.

4. Give the structure and mode of reproduction :—

(1.) Of the Hydroid Zoophytes.
(2.) Of a tape-worm.

5. Describe the structure and metamorphosis of an insect, and name the twelve orders of the *Insecta*, giving familiar examples of each order.

6. Describe the skeleton of the typical *Vertebrata*, and give its modifications in the fishes, the amphibians, the reptiles and the birds.

7. Describe the respiratory system of the fishes and the birds.

8. Name the orders of the birds, giving examples of each other.

9. Mention the distinctive characters of the *Mammalia*, and give a brief description of the whalebone whales and the seals.

10. Give a full list of the *Ungulata* or "hoofed quadrupeds," and describe the digestive system of the *Ruminants*—taking for example a cow.

11 (1). Give a list of the animals included under each of the *Carnivora*, the *Rodentia*, and the *Quadrumana*.

(2). Show the differences in structure between each of the three.

(3). Point out the distinctions between the Anthropoid Apes and Man

12. Write brief notes on the various modes of locomotion and reproduction found in the animal kingdom.

FIRST YEAR.

GEOLOGY.

Examiner: P. H. Bryce, M.A.

1 Draw a comparison between "trade-winds" and Ocean-currents," shewing wherein they are alike, and wherein they differ.

2. Draw a diagram representing accurately the various "Ocean-currents" and their relations with one another.

3 (*a*). State the various theories in explanation of the saltness of the ocean.

(*b*). Classify "ocean islands," and describe the formation of a coral island.

4 (*a*). Under what circumstances are "springs" likely to occur? Illustrate their formation by diagrams.

(*b*). Why may Geology be defined as "the Geography of the past?"

5 (*a*). Give classifications of rocks, (1) with reference to their origin, (2) with reference to their constituents.

(*b*) Name the essential components of a soil formed from disintegrated volcanic rocks.

6 (*a*). Distinguish between "metamorphic" and "sedimentary" rocks.

(*b*). Give three examples of each class, and the principal constituents of each.

7 (*a*). Name the various agencies at work in the disintegration of rocks. Illustrate each by examples.

(*b*). What have been the principal agencies in the consolidation of sediments?

8 (*a*). Describe some of the principal changes which stratified rocks have undergone.

(*b*) Distinguish between valleys of "denudation," "undulation," and "elevation."

9 (*a*). Give facts justifying the classification of rocks according to age.

(*b*). Name the various "Geological Ages," and give some of the general characters of each age.

10. State some of the most important characteristics of the "Carboniferous" and "Androzoic" ages.

SECOND YEAR.

MATHEMATICS: SURVEYING AND LEVELLING.

Examiner: W. Brown, Esq.

(1). Draft ground plan of our Experimental Barn and Seed Room, and make section of barn and cellar on a scale of $\frac{1}{4}$ inch to a foot.

(2). Our College Buildings stand 110 feet above the river Speed, at a distance of $\frac{3}{4}$ of a mile, on the slope; plan these positions by a section, on a scale of $\frac{1}{4}$ inch horizontal, and 3 inch vertical, to every 100 feet, and fill in an alternate rise and fall of 20 feet at every 500 feet on the slope, taking the river as datum for section lines.

(3). Field 10 is broken by one square acre of barns on centre of lane end, which is 10 chains, and by one acre on Dundas Road side—two chains of this acre fronting on said road at the distance of half the length of the field from said lane; plan the whole so as to give us $20\frac{1}{2}$ acres of cultivated ground.

SECOND YEAR.

MATHEMATICS: MENSURATION.

Examiner: W. Johnston, M. A.

1. How many acres in a square field whose diagonal is 7 chains 86 links?

2. How many acres in a rectangular field whose sides are 24 chains 50 links, and 8 chains 50 links respectively?

3. The distance from beam to beam is 32 feet, the height of the ridge is 12 feet. What of the length of the rafter?

4. Over how much ground would a cow, tethered to a stake by a rope 39.25 yards long, be allowed to feed ?

5. The sides of a triangular farm in a gore, are 49.00, 50.25, and 25.69 chains. How many acres in the farm ?

6. What are the solid contents of a piece of tapering square timber 18 ft. 6 in. in length ; 1 ft. 6 in., and 1 ft. 3 in. at large end ; 1 ft. 3 in., and 1 ft. at small end ?

7. What are the solid contents of a saw-log whose length is 38 feet, and whose mean girth is 59 inches ?

8. What will be the cost of paving a court yard 62 ft. 7 in. long, 44 ft. 5 in. wide, with a foot path 62 ft. 7 in. long, and 5 ft. 6 in. wide, running through, the latter costing 72 cents, and the rest 60 cents, per square yard ?

9. The parallel sides of a trapezoidal field are 24 chains 82 links ; 16 chains 44 links, and the perpendicular breadth is 10 chains 30 links. What is the area of the field ?

10. How many acres in a farm whose south side is 27.40 chains ; east side 35.75 chains ; north side 37.35 chains ; west side 41.05 chains, and whose diagonal from south west to north-east is 48.35 chains ?

FIRST YEAR.

ARITHMETIC AND BOOK-KEEPING.

Examiner : W. Johnston, M.A.

1.—Find the amount of the following invoice :—

68	Bus.	36	lbs of	Barley	@	$0	97	per bushel.
47	"	22	"	Oats	"	0	48	"
96	"	16	"	Wheat	"	1	18	"
16	"	37	"	Rye	"	0	62½	"
6	"	17	"	Clover Seed	@	6	30	"
4	"	11	"	Timothy Seed	"	3	40	"
18	"	12	"	Potatoes	"	0	42	"

2.—Find the cost of a rectangular farm 42 chains 36 links long ; 38 chains 26 links wide, at $62 per acre.

3.—I gave for my purchases at James Smith's sale on the 16th of last August amounting to $1,830 63, my note for ten months at 7 per cent. per annum. What will I require to pay on the 19th of June next ?

4.—Three years and a half ago I invested $700 in securities, paying half-yearly dividends of 7 per cent. per annum. Dividends added to principal—what is the present amount ?

5.—Bought at John Brown's sale two heifers for $1,003 50. Terms of sale 8 months' credit, or discount for cash at the rate of 6 per cent. per annum. What cash did I pay ?

6.—I invest $867 50 worth of Imperial Bank Stock, quoted 105¼ in Toronto Bank Stock, quoted 136½. What amount of the latter do I receive ?

7.—I buy 25 cattle in Ontario for $1,869 45 ; and sell them in London for £824 16s. 9d. The expenses of the cattle alone are £146 18s. 7½d. What are my profits—sterling exchange counted at 110¼ ?

8.—Extract $\sqrt[2]{V60\cdot487129}$ and $\sqrt[3]{V\cdot697864103}$.

9.—Put in their proper place, in your Farm Books, the following memoranda :

April 22nd, 1877.—Two teams and two men working in Field No. 16. Sowed by hand on Field No. 12, 19 bushels 28 lbs. barley worth 68½ cents per bushel. Drove into town towards evening. Bought from Jas. Smith, seedsman, on credit, 4 bushels, 24 lbs. clover seed, at $8.25 per bushel, and 6 bushels 11 lbs. Timothy seed at $3.80 per bushel. Settled in cash my note for $240 at eight per cent., given in favour of William Jones, on January 7, 1874. Cow Sally dropped a heifer calf this afternoon. I value it at $80. Four Cotswold lambs to-day, $45.

Oct. 4th, 1877.—All day threshing 386 bushels barley that came off Field No. 12. Besides threshers, were five hands from neighbours, self, my two men, and my three teams. Paid threshers $3,25 per hundred—cash. Sold to John Black this evening for cash, four Berks at $12.25 each, and two lots on N.E. corner of my farm, nearest the town—one 98 x 97 links, and the other 92x 95·4 links, $150 per acre.

SECOND YEAR.

POLITICAL ECONOMY AND ENGLISH LITERATURE.

Examiner: W. Johnston, M. A.

1 (*a*). What are the objects of Political Economy?

(*b*). What relation does it bear to Social Science?

(*c* Define "Wealth."

2 (*a*). What are the requisites of Production?

(*b*). Distinguish between productive and unproductive labour, productive and unproductive consumption.

3 (*a*). Wherein does fixed differ from circulating capital.

(*b*). "Capital is augmented not by preservation, but by reproduction." Explain and exemplify.

4 (*a*). Mention the causes of superior productiveness.

(*b*). Consider fully and illustrate the last cause—the principle of the division of labour. Show in what it fails in its application to agriculture.

5. Show the advantages and disadvantages of small, as compared with large, farms.

6 (*a*). "The law of the increase of production from the soil is a law of diminishing return." Explain fully, and describe the operation of all the causes antagonistic to this law.

(*b*). Apply both to the case of our own Province.

7 (*a*). Define "property," and enumerate its rights.

(*b*). State the causes for the distribution of produce, and the classes amongst whom it may be distributed.

8. Discuss briefly the question of small *vs.* large proprietors in its individual, social and national aspects.

9 (*a*). Specify the causes that determine the general rate of wages.

(*b*). What elements enter into "gross profits?"

(*c*). Of what is "rent" an effect? Does it enter as a factor into the cost of the produce?

10 (*a*). Distinguish between value and price.

(*b*). What are the elements in the "Cost of production?"

(*c*). What is the law of the value of Agricultural Products?

11 (*a*). "Money is wealth." Explain the fallacy.

(*b*). Show closely "Money's" place in "Exchange," and state the law of its value.

(*c*). Why is a "Gold" standard better than a double standard? Illustrate by the United States "Silver Bill" lately passed.

12 (*a*). State the influence of credit upon prices.

(*b*). Explain the causes, and describe the phenomena of a commercial crisis.

"No, I defy all counsel, all *redress*,"
"But that which ends all counsel, true redress,"
"Death, death, O *amiable*, lovely death!"
"Thou *odoriferous* stench! sound rottenness!"
"*Arise* forth from the couch of lasting night,"
"Thou hate and terror to prosperity,"
"And I will kiss thy *detestable* bones,"
"And put my eyeballs in thy *vaulty* brows,"
"And *ring* those fingers with thy household worms,"
"And *stop* this gap of breath with *fulsome* dust,"
"And be a *carrion monster* like thyself,"

"Come, *grin* on me ; and I will think thou smil'st,"
"And *buss* thee as thy wife ! *Misery's* love,"
"O, come to me !"

—*Shakespeare's King John.*

1. Point out all figures of *euphony*, *syntax* and *rhetoric* in the passage.
2. Give the derivation, synonyms for, and parsing of the italicised words.
3. Sketch the history of the reign of King John.
4. Analyse the character of Constance as drawn by Shakespeare.

FIRST YEAR.

ENGLISH.

Examiner: W. JOHNSTON, M. A.

1 (*a*). Give a classification of languages.
(*b*). Sketch the growth of the English language.
(*c*). Show at what period the Scandinavian element entered into it, giving example.
2 (*a*). Define "inflection."
(*b*). What classes of English words are inflected, and what are their inflections ?
(*c*). Show the true significance of "inflection" in English.
3. Write the declension of the personal pronoun, and the potential mood, passive voice, of the verb "conquer."
4 (*a*). Name the various parts in the crititical analysis of an English paragraph or stanza, giving examples.
(*b*). Show the true place of parsing in critical analysis.
5 (*a*). Distinguish between the figures of syntax and figures of rhetoric, giving examples.
(*b*). Define, with examples, the figures of *plenoasm*, *metaphor*, *metonymy* and *apostrophe*.
6 (*a*). Give a classification of the various species of prose composition.
(*b*). Distinguish between *epic*, *lyric* and *dramatic* poetry.
(*c*). Name in English literature examples of the *song*, the *ode*, the *classic epic*, the *romance*, the *tragedy* and the *comedy*.

"*Ruin* seize thee, ruthless King !"
"*Confusion* on thy banners wait,"
"Though *fanned* by Conquest's crimson wing,"
"They mock the air with idle state."

"*Fair* laughs the morn, and soft the zephyr *blows*,
"*While* proudly *riding* o'er the azure realm,"
"In gallant trim the gilded vessel goes ;
"Youth on the prow, and Pleasure at the helm ;
"*Regardless* of the sweeping wirlwind's sway,"
"*That hushed* in grim repose, *expects* his evening prey.'

"Above, below, the *rose* of snow,"
"*Twined* with her blushing foe, we spread ;"
"The bristled boar *in* infant gore,"
"Wallows beneath the stormy shade."

(*a*.) Helm nor hauberk's twisted mail.
(*b*.) No more our long-lost Arthur we *bewail*.
(*c*.) Is the *sable* warrior fled ?
(*d*.) Ye towers of Julius, London's lasting *shame*.
(*e*.) To high-born Hoel's harp or soft Lewellyn's lay.
(*f*.) The wolf France, with *unrelenting fangs*
That tear'st the bowels of thy *mangled* mate.

7 (*a*). Parse the italicised words in the three complete extracts.
(*b*). Give the syntactical analysis of the second.
8 (*a*). Point out the figures of *syntax* and *rhetoric* in the complete extracts.
(*b*). Explain all allusions in the six single extracts.
(*c*). Give the historical analysis of all the italicised words in all the extracts.
9 (*a*). Describe the position of the bards in the society of the Middle Ages.
(*b*). Give the biography of the poet "Gray."
10 (*a*). Name the Kings of the Plantagenet line.
(*b*). Sketch the history of the reign of Edward I.

APPENDIX D.

ONTARIO AGRICULTURAL COLLEGE.

CLASS LISTS.

Easter Examination : Session 1877-78.

SECOND YEAR.

CLASSES.		AGRICULTURE.	VETERINARY PATHOLOGY.	VETERINARY MATERIA MEDICA.	ORGANIC AND ANIMAL CHEMISTRY.	AGRICULTURAL CHEMISTRY.
HONOURS.	I.	1. Warren, J. B. 2. Naismith, D. 3. Logan, T. 4. Crompton, G. / Farlinger, W.	1. Warren. 2. Naismith. 3. Farlinger. 4. Logan.	1. Naismith. 2. Logan. 3. Stewart. 4. Graham.	1. Warren. 2. Crompton. 3. Naismith.	1. Warren. 2. Naismith 3. Logan.
	II.	1. Graham, D. 2. Davis, C.	1. Graham. 2. Davies.	1. Warren. 2. Farlinger. 3. Davies. 4. Crompton.	1. Farlinger. / Stewart. 3. Logan. 4. Graham.	1. Crompton. 2. Stewart. 3. Graham. 4. Farlinger.
PASS.	III.	1. Stewart, W.	1. Crompton. 2. Stewart.		1. Davies.	1. Davies.

CLASSES.		ECONOMIC BOTANY AND ENTOMOLOGY.	METEOROLOGY.	POLITICAL ECONOMY AND ENGLISH LITERATURE.	SURVEYING AND LEVELLING.	MENSURATION.
HONOURS.	I.	1. Naismith. 2. Warren. 3. Graham. 4. Stewart.	1. Warren. / Naismith. 3. Crompton. 4. Logan. / Stewart. 6. Graham.	1. Naismith. 2. Stewart. 3. Farlinger.	1. Warren. / Logan. 3. Naismith. 4. Crompton. 5. Stewart.	1. Logan. 2. Warren. 3. Crompton. 4. Naismith.
	II.	1. Crompton.	1. Farlinger.	1. Logan. 2. Stewart. 3. Graham. 4. Crompton.	1. Graham.	1. Davies. 2. Farlinger. 3. Stewart.
PASS.	III.	1. Farlinger. 2. Logan 3. Davies.	1. Davies.	1. Davies.	1. Davies. 2. Farlinger.	1. Graham.

NOTE.—Names unnumbered in these lists are those of Students who fail to pass in the subjects.
Any Student failing in more than one subject is "plucked."
Any such appearing in another subject is marked with an asterisk.

Class Lists.—*Continued.*

First Year.

Classes.		Agriculture.	Chemistry.	Zoology.	Botany.	Geology.
Honours.	I.	1 Brecken, J. 2 Randall, J. 3 Nicol, A. 4 Dunkin, T. L. 5 Bonnard, E. 6 Major, W. H. 7 Lawson, B. A. 8 Robertson, J. 9. Lackner	1 Randall 2 Lawson 3 Bonnard 4 Wilkinson 5 Dunkin 6 Jopling 7 Nicol 8 Gillespie 9 Hartshorne, Barclay	1 Lawson 2 Gillespie 3 Randall 4 Nicol 5 Dunkin 6 Greig 7 Clinton 8 Exham 9 Brecken, Wilkinson	1 Nicol 2 Dunkin 3 Hartshorne 4 Warnica 5 Hewson 6 Dick 7 Shand	1 Nicol 2 Dunkin 3 Hartshorne, Toole ....
	II.	1 Gillespie, G. H. 2 Hartshorne, L. 3 Exham, F. 4 Stover, F. E. 5 Greig, G. H. 6 Fyfe, A. 7 Jopling, W. 8 Clutton, J. 9 Toole, L. 10 Jenkins, L.	1 Toole, Stover 3 Hewson 4 Robertson, J. 5 Clutton 6 Simmers 7 Shand, Fyfe	1 Warren, W. 2 Hay 3 Hartshorne 4 Stover 5 Fyfe 6 Bonnard 7 Jopling 8 Simmers 9 Shand 10 White 11 Robinson	1 White 2 Toole 3 Clark 4 Fyfe	1 Stover 2 Hewson 3 Dick ....
Pass.	III.	1 Wilkinson, P. J. 2 Ash, W. E. 3 McFarlane, A. 4 Butterfield, J. S. 5 Elliott, J. 6 Clark, J. 7 Hewson, J. 8 Paige, A. 9 Moore, M. A. 10 Carey, E. H. †11 Wilson, W. 12 Robinson, C. B. 13 Ferguson, J. M. 14 Clinton, E. J. 15 Carney, R. H. 16 Heaslip, F. 17 Warren, W. R. 18 Shand, C. 19 Warnica, A. W. 20 Hopkins, J. 21 Mills, F. 22 Dick, A. *23 Wilkins, W. (Dickson) 24 Simmers, H. (Bawden) 25 Cann, W. (Elwell) 26 Bell, A. (Chase) 27 Hay, A. (Bratton) 28 Willis, (Cowan) 29 White.	1 Mills, F. 2 Brecken, Robinson 4 Hay 5 Exham 6 Major 7 Lackner 8 White 9 Ash 10 Jenkins 11 Willis, Bratton, Clinton 14 Greig 15 Elliott 16 Carney, Hopkins 18 Ferguson 19 Warnica 20 Paige 21 Chase, Cann 23 Clark 24 Heaslip Elwell McFarlane Moore Dick Wilson Wilkins Bell Dickson Bawden Butterfield Carey Cowan	1 Cann 2 Barclay 3 Elliott 4 Moore 5 Clutton 6 Major 7 Boomer 8 Carey 9 Clark 10 Warnica, Hopkins 12 Carney 13 Robertson, J. 14 Ferguson, Ash 16 Toole 17 Lackner 18 Wilkins 19 McFarlane, Paige 21 Hewson 22 Mills *23 Elwell 24 Chase, Bell 26 Jenkins 27 Dick 28 Willis 29 Heaslip 30 Wilson Bratton Dickson Butterfield Cowan Bawden	1 Stover *2 Wilkins 3 Major 4 Lackner *5 McFarlane 6 Chase 7 Elwell 8 Carey	1 White 2 Shand 3 Clark 4 Warnica 5 Lackner 6 Carey 7 Chase 8 Major McFarlane Wilkins ....

Note.—Names unnumbered in these lists are those of Students who fail to pass in the subjects.
Any Student failing in more than one subject is "plucked."
Any such appearing in another subject is marked with an asterisk.

Class Lists.—*Continued.*

First Year.—*Continued.*

Classes.		Veterinary Anatomy.	Veterinary Materia Medica.	English.	Mathematics.	Agriculture (Spring).
Honours.	I.	1 Jopling 2 Nicol 3 Gillespie 4 Wilkinson 5 Lawson 6 Hartshorne	.....	1 Barclay 2 Lawson 3 Gillespie 4 Hartshorne 5 Randall 6 Robertson, J. 7 Dunkin	1 Lawson 2 Gillespie 3 Barclay 4 Dunkin 5 Randall	1 Stover 2 Dunkin 3 Nicol
	II.	1 Randall 2 Ash 3 Lackner 4 Robertson, J. 5 Hewson, J. 6 Barclay 7 Shand	1 Clark 2 Lackner 3 Shand	1 Nicol 2 Jopling 3 Toole 4 Clinton 5 Brecken 6 Warren, W.	1 Dick 2 Hewson 3 Clark 4 Brecken 5 Major 6 Shand 7 Carey 8 West 9 Wilkinson	1 Hartshorne 2 Elwell 3 Dick 4 Chase 5 Wilkins
Pass.	III.	1 Dunkin 2 Clark Major 4 Wilkins 5 Ferguson 6 Moore 7 Elliott 8 Jenkins 9 White 10 Robinson 11 McFarlane 12 Grey 13 Willis 14 Warren 15 Brecken 16 Dick 17 Butterfield 18 Exham 19 Simmers 20 Fyfe 21 Toole 22 Warnica Dickson 23 Hopkins Wilson 24 Heaslip Chase 25 Boomer Bowden 26 Clutton Clinton 27 Bell Elwell 28 Paige Bratton 29 Cann Carney 30 Mills Hay 31 Bonnard Carey	1 Major 2 Warnica 3 Toole 4 Hewson 5 Fyfe	1 Wilkinson 20 Dick 2 Clutton 21 Major 3 Exham 22 Dickson 4 Carey 32 Chase Elliott 24 Hopkins 6 Simmers 25 Willis 7 Greig 26 Moore 8 Fyfe 27 Hay 9 Cann 28 Bell Hewson Bratton 11 Robinson 30 White 12 Jenkins 31 Paige 13 Stover Wilson 14 Shand 33 Carney 15 Bonnard 34 Butterfield 16 Ash 35 Elwell 17 Clark 36 Heaslip 18 Warnica 37 Bawden 19 Ferguson 38 Cowan	1 Fyfe 2 Warnica 3 Exham 4 Jenkins 5 Ferguson 6 Bell 7 Hopkins 8 Hartshorne 9 White 10 Robinson 11 Chase 12 Bratton 13 Jopling 14 Mills Clutton 16 Warren 17 Toole 18 Bonnard 19 Hay 20 Stover 21 Moore 22 Paige 23 Robertson 24 Clinton 25 Greig 26 Ash 27 Simmers 28 Elliott 29 McFarlane 30 Butterfield 31 Cowan	1 White McFarlane* 3 Carey

Note.—Names unnumbered in these lists are those of Students who fail to pass in the subjects.
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APPENDIX E.

Entrance Examination Papers, October 1878.

ARITHMETIC.

Examiner: W. JOHNSTON.

1. The *dividend* is one billion, two hundred and twenty million, two hundred and thirty thousand, and ninety-two, the *quotient* six thousand and eighty-four, and the remainder forty-eight thousand. Find the divisor.

2. Find the cost of 7,225 lbs. of coal at $7.25 per ton.

3. I bought $19\frac{1}{2}$ yards of Irish linen at 5s. 4d., $16\frac{3}{4}$ yards of calico at 1s. 8d., and $16\frac{1}{2}$ yards of silk at 8s. 4d.; find the amount of the bill in dollars and cents.

4. Reduce 3 acres, 14 square perches, 4 square feet, 72 square inches, to square inches; and 170,184 square feet to acres.

5. What is the length of a fence that measures 2,456 links; and how much would it cost at $8.66 per yard—remembering that a chain is 66 feet long, and contains 100 links.

6. Find the cost of $49\frac{3}{11}$ yards of cloth, when $7\frac{5}{8}$ yards cost £7 18s. 4d.

7. Prove that by multiplying the numerator of a fraction by any number produces the same result as dividing the denominator by the same number.

8. Simplify $\dfrac{\frac{5}{32}\times\frac{7}{24}\text{ of }3\frac{1}{4}-\left(\frac{7}{16}\text{ of }\frac{37}{21}-\frac{1}{7}\right)}{\frac{5}{28}-\frac{3}{14}\text{ of }\frac{1}{2}}$

9. Divide 6.0083 by .007986; and find the sum of 6 27, 18.651 and 12.345.

10. Define the L.C.M. and G.C.M. of two or more numbers, and find the G.C.M. of 860149 and 2006153.

11. If $17\frac{3}{5}$ tons of hay last a certain number of horses $107\frac{3}{11}$ days, how many days will $11\frac{11}{17}$ tons last them.

ENGLISH GRAMMAR.

Examiner: W. JOHNSTON, M. A.

1. Define "English Grammar," and the four divisions under which it is usually studied.

2 (*a*). Name and define "the parts of speech."

(*b*). Explain the meaning of the term "inflection," giving examples.

3 (*a*). Give the rules for forming the plural of nouns.

(*b*). Distinguish between the various classes of pronouns.

4. Write out the declension of the personal pronouns.

5 (*a*). Name and explain the inflections of the verb.

(*b*). Give and define the moods and tenses of the verb.

(*c*). Show how the passive voice is formed, giving examples.

6. Write out the potential mood, active voice, and the indicative mood, passive voice, of the verb "command."

7. Give a list of prepositions, and another of conjunctions.

(*a*). "An adverb is a word used to modify the sense of a verb, an adjective, or another adverb.

(*b*). "*Obeying* the *laws* of the *well-known processes* of thought, the *man will*, *under those* circumstances, *cling all* the *more closely* to *his former* opinion."

(*c*). " He wanders on"
" *From* hill to dale, *still more and* more *astray*,"
" *Impatient flouncing* through the *drifted heaps*,"
" *Stung* with *the thoughts* of home."

8. Analyse each of the three sentences marked (*a*), (*b*), (*c*).
9. Parse the first sentence, and the italicised words in the second and third.

GEOGRAPHY.

Examiner: W. Johnston, M. A.

1. Draw an outline of map of the Eastern and Western Hemispheres, showing the relative position of the continents and oceans.
2. Explain the terms *cape, mountain, gulf, river, lake, equator, zone, longitude, latitude, monarchy, republic, empire.*
3. Name the principal rivers of Europe, and the waters that surround it.
4. Give the political divisions of Europe, and the chief cities in each.
5. Name the principal capes, bays and gulfs on the coast of Asia; and describe the position of its leading mountain-chains.
6. Draw an outline map of the continent of Africa, and describe the course of its principal rivers.
7. Give the political divisions of North and South America, with the chief cities in each.
8. Name the capes, bays and gulfs on the coast of North America, and give a list of the States and Territories of the United States.
9. Give the Counties of England and Ireland, and name the chief cities in each.
10. Name the Provinces that form the Dominion of Canada, giving the capital of each Province; and describe the position of the principal rivers and lakes in the Dominion.
11. Name the Counties of Ontario that border upon Lakes Erie and Ontario, giving their county towns.
12. Where are Calcutta, Berne, Cairo, the Amazon, Winnipeg, Sherbrooke, the Seine, Naples, Cabul, Tunis, Santiago, Memphis, Sheffield.

READING, DICTATION, AND COMPOSITION.

Examiner; J. Hoyes Panton. M.A.

Read—*Death* of *Montcalm*, p. 88, Fourth Reader.

(1). When and where did this event occur? What was the result of the battle, and what other distinguished General fell?

(2). Where are the places situated that are mentioned in the extract?

(3). Give the derivation and signification of retreat, perplexities, survive, defence, refuse, consummate, and emotion.

(4). Distinguish between wrested and rested, rout and route, latter and later, compliment and complement.

DICTATION.

Page 133, Fourth Reader—An awful abyss awaits——hearthstone.

COMPOSITION.

(1). Write a letter to a friend.
(2). Write a business letter.

APPENDIX F.

FINANCIAL TABLES.

TABLE 1.—Appropriation Expenditure for 1878.
" 2.—Estimated Appropriation Expenditure for 1879.
" 3.—Account of the Boarding House with the Farm and Garden.
" 4.—Farm Income and Expenditure for 1878.
" 5.—Estimated Farm Income and Expenditure for 1879.

TABLE I.—APPROPRIATION EXPENDITURE

FOR THE ELEVEN MONTHS ENDING 30TH NOVEMBER, 1878.

A.—*Maintenance Account.*

1. *Food.*		
Meat, fish and fowl	$1,937 05	
Bread and biscuit	739 09	
General groceries and butter	1,823 83	
II. *Household Expenses.*		
Fuel	1,051 89	
Light	104 99	
Laundry, soap and cleaning	169 07	
Furniture and furnishing	351 30	
Repairs and alterations	561 50	
III. *Business.*		
Advertising, postage and Stationery	830 71	
IV. *Miscellaneous.*		
Medicines and medical comforts	63 21	
Maintenance of chemicals	52 05	
Contingencies	387 64	
V. *Experiments*	615 84	
VI. *Salaries and Wages*	9,930 28	
		$18,618 45

B.—*Capital Account.*

Implements	625 83	
Permanent improvements	3,138 07	
Library, Laboratory and Museum	419 66	
		$4,183 56

TABLE II.—ESTIMATED APPROPRIATION EXPENDITURE FOR 1879.

A. Maintenance Account.

1.—*Salaries and Wages.*

President, Professor of Natural History, English and Mathematics, and Resident Master	$2000 00
Professor of Agriculture, and Farm Superintendent	2000 00
Professor of Chemistry and Practical Chemist	1200 00
Professor of Veterinary Science, and Practitioner	600 00
Assistant English and Resident Master	600 00
Bursar and Storekeeper	600 00
Physician	300 00
Foreman of Field and Live Stock Department	800 00
Foreman of Horticultural Department	600 00
Foreman of Mechanical Department	600 00
Matron and Housekeeper	360 00
Engineer	400 00
Assistant ditto, for six months	150 00
Janitor and Messenger	150 00
Temporary assistance	100 00

2.—*Expenses.*

Six-sevenths cost of boarding proper, as follows:

Meat, fish and fowl	$2600 00	
Bread and biscuit	1200 00	
Groceries and butter	2600 00	
Laundry, soap and cleaning	200 00	
Medicines and medical comforts	60 00	
Women servants for Boarding House	1110 00	
	7770 00	
		6660 00
Fuel		1600 00
Light		300 00
Furniture and furnishing		400 00
Repairs and alterations		400 00
Maintenance of chemicals		100 00
Advertising, postage and stationery		600 00
Unenumerated		600 00
Experiments (Farm)		1000 00
		22220 00

B. Capital Account.

Addition for store-room, matron and servants' rooms; water tank and pipes therefrom	$5500 00
South Centre Wing	5000 00
Heating and furnishing	7000 00
Library, laboratory, and museum	1000 00
Permanent improvements	3000 00
Implements	500 00
	22000 00

Mr. Brown's estimate, included in the above items, is as follows:—

Foreman of Field and Live Stock Department	$720 00
Foreman of Horticultural Department	600 00
Foreman of Mechanical Department	600 00
Experiments	1000 00
Permanent improvements	3000 00
Implements	500 00

Table No 3.

THE BOARDING HOUSE.

In account with the farm and garden from 1st Nov., 1877 to 31st Oct., 1878.

Dr.				$ cts,	$ cts.
Asparagus	114	bunches	at 5cts. per bunch	5 70	
Artichokes	1	bushel	" 50cts. " bushel	50	
Apples	28	"	" 50cts. " "	14 00	
Beans	4	"	" $1 " "	4 00	
Beets	32	"	" 50cts. " "	16 00	
Cabbage	612	heads	" 5cts. " head	30 60	
Cauliflowers	54	"	" 8cts. " "	4 32	
Celery	42	"	" 5cts. " "	2 10	
Carrots	26	bushels	" 20cts. " bushel	5 20	
Corn	10	dozen	" 10cts. " dozen	1 00	
Cucumbers	425		" 25cts. " hundred	1 06	
Lettuce	23	dozen	" 20cts. " dozen	4 60	
Milk (Farm)	3580	gals.	" 8cts. " gal.	286 40	
Onions	19	bushels	" 75cts. " bushel	14 25	
Parsley	1	"	" $1 " "	1 00	
Parsnips	22	"	" 50cts. " "	11 00	
Peas (Green)	11	"	" $1 " "	11 00	
Potatoes(Gard'n)	74	"	" 40cts. " "	29 60	
Potatoes(Farm)	326	"	" 30cts. " "	97 80	
Radish	42	bunches	" 2cts. " bunch	84	
Rhubarb	76	"	" 5cts. " "	3 80	
Spinach	11	bushels	" $1 " bushel	11 00	
Tomatoes	9	"	" 50cts. " "	4 50	
Turnips	30	"	" 15cts. " "	4 50	
Wheat (Farm)	30	"	" $1 " "	30 00	
					594 77

Contra.

Cr.	
Value of students' labour as reported by foreman and credited them in ledger G	3,726 53

TABLE 4.—Farm Income and Expenditure for the financial year beginning 1st November, 1877, and ending 31st October, 1878.

INCOME.	$ cts.	$ cts.	EXPENDITURE.	$ cts.	$ cts.
A. Balance per Report of 1877 { (1) Notes..... 503 15 (2) Grain..... 166 80	.....	669 95	*I. Farm Produce Consumed.*		
I. Farm Produce.			Barley..... 210 bushels	126 00	
Wheat..... 516 bushels	529 13		Peas..... 380 "	209 00	
Barley..... 466 "	318 50		Oats..... 1,540 "	462 00	
Peas..... 380 "	209 00		Turnips.. 16,500 "	660 00	
Oats..... 1,540 "	462 00		Mangolds..4,800 "	384 00	
Turnips.. 16,500 "	660 00		Potatoes.... 140 "	56 00	
Mangolds...4,800 "	384 00		Hay, Straw and Maize	938 00	
Potatoes.... 420 "	168 00				2,835 00
Hay, Straw and Maize	938 00		*II. Cash Expenditures.*		
		3,668 63	Labour	2,373 64	
II. Live Stock.			Live Stock	496 47	
Service of Stock—Winter, 1878	29 00		Feed and Fodder	794 58	
Breeding Stock –Sales, Winter, 1878	395 30		Seeds	454 88	
Fat Stock—Sales, Easter, 1878	668 00		Repairs	439 63	
Wool—Sales, Summer, 1878	179 88		Manures	263 74	
Breeding Stock- Sales, Fall, 1878 { (1) Cash	1,349 45		Contingencies	36 25	
(2) Notes	909 85				4,859 19
		3,531 48	*III. Placed on Farm or Supplied to College.*		
III. Miscellaneous.			Increase of Stock	2,100 00	
Increase of Stock	2,100 00		Manure	450 00	
Manure	450 00		Milk—3,580 gals	286 40	
Milk –3,580 gals	286 40		Potatoes—280 bushels	112 00	
Rent of Pastures	78 00				2,948 40
		2,914 00	*IV. Cash Balance on Hand.*		
			Cash in shape of Notes	141 87	
					141 87
		10.784 46			10,784 46

TABLE 5.—Estimate of Farm Income and Expenditure for the financial year beginning 1st November, 1878, and ending 31st October, 1879.

INCOME.	$ cts.	$ cts.	EXPENDITURE.	$ cts.	$ cts.
I. Farm Produce.			*I. Farm Produce to be Consumed.*		
Wheat..... 300 bushels	255 00		Barley..... 200 bushels	120 00	
Barley..... 400 "	240 00		Peas..... 800 "	440 00	
Peas..... 800 "	440 00		Oats..... 800 "	320 00	
Oats..... 800 "	320 00		Turnips...15,000 "	900 00	
Turnips...15,000 "	900 00		Mangolds..6,000 "	600 00	
Mangolds..6,000 "	600 00		Carrots..... 400 "	80 00	
Carrots..... 400 "	80 00		Potatoes.... 100 "	50 00	
Potatoes.... 200 "	100 00		Hay, Straw and Maize	1,000 00	
Hay, Straw and Maize	1,000 00				3,510 00
		3,935 00	*II. Cash Expenditure.*		
II. Live Stock.			Labour	2,200 00	
Fat Sheep—Christmas, 1878	50 00		Live Stock	300 00	
Fat Cattle—Easter, 1879	300 00		Feed and Fodder	800 00	
Wool—Summer, 1879	200 00		Seeds	400 00	
Service—Season, 1879	100 00		Repairs	450 00	
Public Auction Sale—Fall, 1879	2,500 00		Manures	250 00	
		3,150 00	Contingencies	100 00	
					4,500 00
III. Miscellaneous.			*III. Miscellaneous.*		
Increase of Live Stock to be retained	600 00		Increase of Live Stock retained on Farm	600 00	
Milk supplied to the Boarding House	257 50		Milk, Wheat and Potatoes supplied to College	350 00	
Manure	700 00		Manure placed on Farm	700 00	
Balance on hand from Nov. 1st, 1878	141 47		Cash balance at end of 1879, Nov. 1st	323 97	
Amount from Appropriation	1,200 00				1,973 97
		2,898 97			
		9,983 97			9,983 97

APPENDIX G.

AGRICULTURAL EDUCATION IN GERMANY AND THE UNITED STATES.

What I desire to do in this very brief Appendix is to give an outline of the manner in which agricultural education is carried out in Germany and the United States. I take those two as examples, although only four European countries are now without similar institutions. I will not rehearse the arguments used by the advocates of this species of education when claiming support for their Colleges from the State, those have already been used here, and acted upon in the establishment and annual support of this institution by our Province.

A.—Germany.

This country is, as usual, ahead of all the rest of the world in this matter of agricultural education. There are four steps in her system, viz:—

1. Agricultural Farm Schools.
2. Agricultural Middle Schools.
3. Agricultural Colleges.
4. Agricultural Courses in Universities.

The course of instruction in the first two classes embraces even more than is found in the curriculum of our own Agricultural College, including, as it does, a thorough grounding in a continued literary education, in the elements of the sciences, in veterinary lessons, in theoretical and practical agriculture, and in all kinds of farm work, learned on the farms which are attached to both those classes of schools. Besides those under the charge of some of the old States, there are 156 of the two classes of schools under the direct control of the Empire; though 42 of them are devoted to the study of specialities, such as vine and grape culture, horticulture, bee-keeping, &c. The third step is the Agricultural College, of which there are six in the German Empire, situated at Eldend, Proskau, Popplesdorf, Munich, Thorand, and Hohenheim. In these, the elementary scientific education, already obtained, is applied directly to agriculture in extensive laboratories and dissecting rooms, fitted up with all the necessary apparatus and appliances, and on large farms of from 800 to 1,500 acres. Besides this practical application, the theoretical instruction is greatly widened, including all the departments of agriculture, agricultural science, veterinary science, agricultural statistics, finance, laws, taxation, &c., &c.—in other words, the curriculum of each is wonderfully complete. Having finished his course, the student is required to enter the ranks of agriculturists and prove himself successful, after which he can attend, thoroughly equipped, agricultural departments of nine of the great National Universities. Besides these schools and colleges, are 43 experimental stations: and the cost of all—schools, colleges, and experimental stations—is borne by the State.

B.—The United States.

I have in the accompanying table grouped together the facts regarding 32 out of 39 Agricultural Colleges of the neighbouring Republic. During 1877 I placed myself in communication with each of those Colleges, and received the Reports of the num-

bers mentioned, so that the table is absolutely correct for the year 1876. In 1862, Congress passed what has been usually referred to as the Land Scrip Act, entitled "An Act donating lands to the several States and Territories which may provide Colleges for the benefit of Agricultural and the Mechanic Arts." By this Act some 9,600,000 acres of the public domain was set aside for this purpose on the basis of 30,000 acres for every Senator sent by any State or Congress to the Senate, such State or Territory having, of course, the right of acceptance or refusal; but the acceptance bound by the conditions of Sec. 4 which required that the interest of all moneys derived from the sale of lands donated "shall be inviolably appropriated by each State which may take and claim the benefit of this Act to the endowment, support, and maintenance of at least one College, where the leading object shall be, without excluding other scientific and classical studies, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes, in the several pursuits and professions in life."

Almost every State has now taken advantage of this liberal offer. The Act evidently contemplated the erection and maintenance in each State of an Agricultural and Mechanical College; but as it did not expressly say so, a contest arose in many of the States between the advocates of existing colleges and those desiring to carry out the spirit of the Act. It has resulted in twenty States, in the endowment of some already existing college or university, which, in order to comply with the conditions, bought a farm, and added to its departments of instruction a well equipped agricultural department. In some nineteen of the States honesty won the day, and separate Agricultural and Mechanical Colleges were erected, and received the endowment, of which I have given in the accompanying table the statistics of sixteen. Only two or three of the former class have been successful, the agricultural department being overshadowed by the other departments of the university—any exception being caused by the noted excellence of the professors in the agricultural department. Of the latter class, the great majority have been successful—many extremely so. Fourteen of the nineteen are as yet quite young, however, having only been fully in operation during the last decade.

The table needs no comment, but is largely self-explanatory. The number of professors in each college is usually six or seven, and of assistants about the same. The average salary of a professor is $2,000—many being above that figure, and only three below it. Of course in the agricultural departments of the universities, the salaries are often double those figures, but these are professors of a regular university, as well. The average salary of the president is about $3,200, many receiving above that sum and none less than $3,000. As before, the presidents of the universities in which there are agricultural departments receive, of course from $4,000 to $6,000; but no precedent can be taken from them. The total number of the professors and assistants in the Agricultural Colleges of the United States, during the year mentioned was 473, and the total number of students 4,211. The former number is a third too large owing from the universities counting their regular professors with the agricultural department. Turning from the equipment and attendance to the maintenance it has been found almost impossible for the first class to obtain any assistance from the State, for the rival colleges or universities oppose that on the grounds that their agricultural departments have only been attached to get the endowment; but the second class, have, in all cases, been assisted in most instances very liberally, by yearly grants from the State. The interest on the lands sold by each State will be seen to be very variable, arising partly from the size of the State, but mainly from the favourable or unfavourable location of the lands. The interest received by all the Colleges during 1876 was $525,745, or an average of about $13,500 to each. Many of them have been additionally endowed by individuals, by subscriptions or by counties, and the annual maintenance expenditure of those of them from which I could get a financial statement was for the year given somewhere between $25,000 and $38,000. And that is outside of any expenditure on capital account. And lastly, turning from equipment, attendance and maintenance, to a consideration of the several courses of study, it may simply be said that neither our space nor our time would allow even a synopsis of them. The great faults of the majority of them are the attempt to teach too many subjects superficially, to give too many optional courses, to leave out a

course of farm apprenticeship, and to make their curriculum too literary, and not sufficiently technical. Should I be spared, and occupy my present position during next year, I hope to obtain what I have hitherto for over four years been denied here—a few weeks' holidays—during which I could visit a few of the more successful of these institutions, and furnish a satisfactory report on the subject. In the meantime enough is given to furnish an outline of the manner in which agricultural education is being carried out in the United States.

W. J.

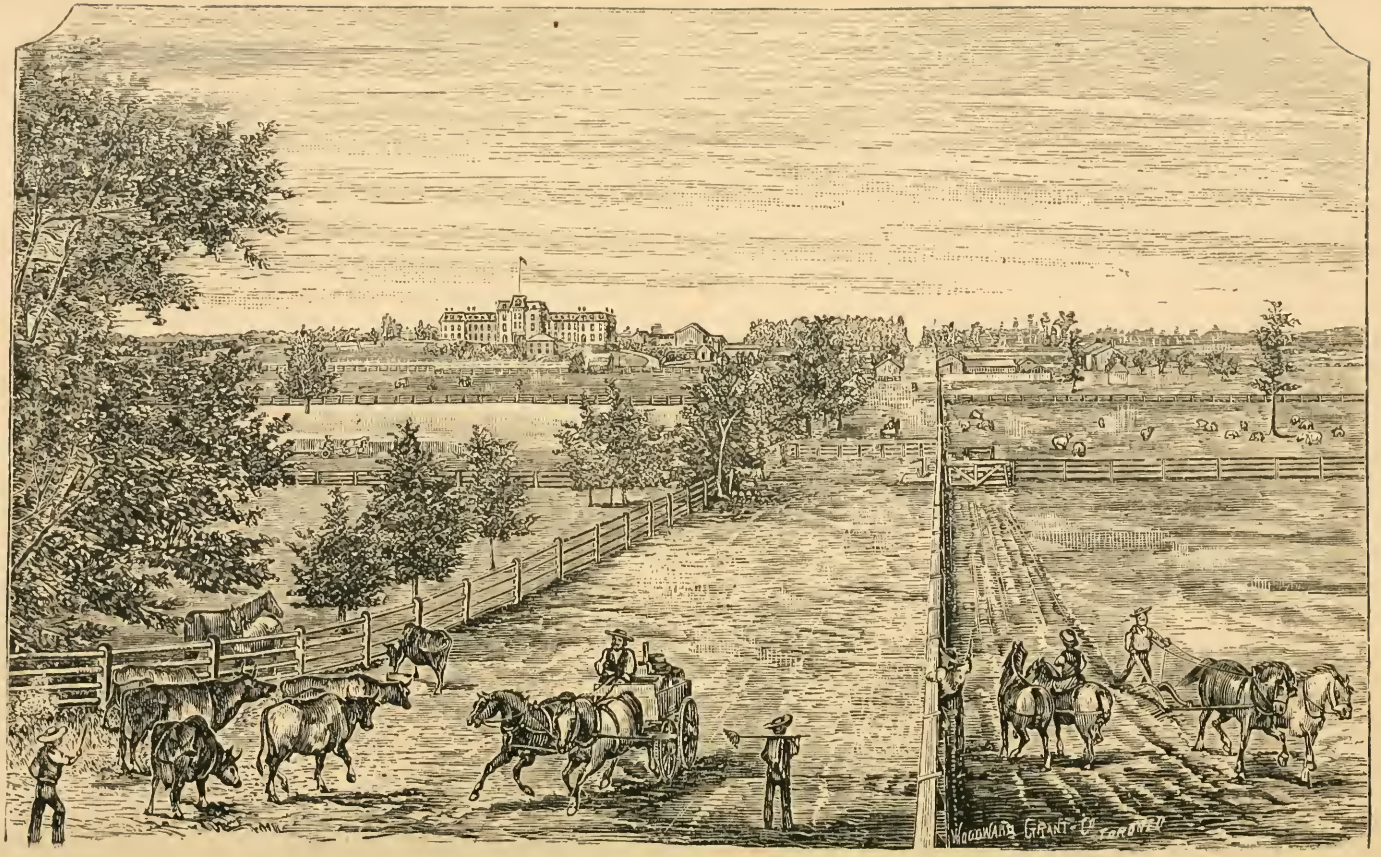
The following table requires no further explanations.

AGRICULTURAL COLLEGES OF THE UNITED STATES, 1876.

STATE.	Locality in the State.	NAME OF THE COLLEGE.	Whether an independent college or a department of a university.	No. of Professors and Assistants in the Agricultural and Mechanical College.	No. of Students in the Agricultural or Mechanical College.	No. of Students pursuing Agricultural or Mechanical Studies.	Interest on investments made from sale of Land Scrip (Act of 1862). Endowment.	No. of Acres in Farm.	Value of Farm (not buildings).
							$		$
Maine	Orono	State College of Agriculture and Mechanic Arts	In. College.	8	115	115	7,864	370	10,000
New Hampshire	Hanover	Dartmouth College	Univ. Dept.	11	24	24	4,800	365	21,000
Vermont	Burlington	University of Vermont and State Agricultural Col.	Univ. Dept.	8	23	23	8,130	no farm.	.....
Connecticut	New Haven	Yale College—Shelfield Scientific School	Univ. Dept.	31	230	230	8,100	no farm.	.....
Rhode Island	Providence	Brown University—Agri. and Mech. Department.	Univ. Dept.	13	35	35	6,624	no farm.	.....
Massachusetts	Amherst	Massachusetts Agricultural College	In. College.	8	111	111	8,022	383	37,000
New York	Ithaca	Cornell University—College of Agriculture	Univ. Dept.	21	58	58	35,000	150	22,000
New Jersey	New Brunswick	Rutgers College—Scientific School	Univ. Dept.	10	42	42	6,960	100	45,000
Delaware	Newark	Delaware College	Univ. Dept.	8	43	16	4,980	not known	.....
Pennsylvania	Centre County	Pennsylvania Agricultural College	In. College.	13	161	161	24,420	600	75,000
Maryland	College Station	Maryland Agricultural College	In. College.	6	77	40	6,900	285	14,250
Virginia	Blacksburgh	Virginia Agricultural and Mechanical College	In. College.	10	255	255	20,639	250	28,000
N. Carolina	Orangeburgh	Claflin University—Agricultural Department	Univ. Dept.	9	61	61	7,500	not known	.....
S. Carolina	Chapel Hill	N. Carolina University—Agricultural Department	Univ. Dept.	6	40	40	10,000	116	10,000
N. Georgia	Dahlenoga	N. Georgia Agricultural College	In. College.	8	93	93	14,000	60	2,500
S. Georgia	Athens	State College of Agriculture and Mechanic Arts	In. College.	5	245	30	3,000	25	1,000
Alabama	Auburn	Alabama Agricultural and Mechanical College	In. College.	7	104	80	16,224	100	2,200
Mississippi	Rodney	Alcorn University—Agricultural Department	Univ. Dept.	4	57	57	5,679	250	5,500
Louisiana	New Orleans	Louisiana Agricultural and Mechanical College	In. College.	6	209	115	13,734	600	40,000
Texas	Bryan	Texas Agricultural and Mechanical College	In. College.	6	50	50	12,000	2,200	20,000
Kansas	Manhattan	Kansas State Agricultural College	In. College.	16	303	303	20,491	255	25,500
Arkansas	Fayetteville	Arkansas Industrial University	In. College.	12	45	45	10,400	160	12,000
Tennessee	Knoxville	East Tennessee University—Agricultural Depart.	Univ. Dept.	12	58	58	23,760	260	24,000
Kentucky	Lexington	Kentucky University—Agricultural Department	Univ. Dept.	8	94	94	9,900	433	130,000
Ohio	Columbus	Ohio Agricultural and Mechanical College	In. College.	11	140	126	30,000	320	200,000
Indiana	La Fayette	Purdue University—Agricultural Department	Univ. Dept.	8	71	71	20,314	159	47,700
Illinois	Urbana	Illinois Industrial University	In. College.	15	187	187	28,200	570	56,000
Missouri	Columbia	Missouri University—Agricultural Department	Univ. Dept.	6	70	70	3,040	640	60,000
Michigan	Lansing	Michigan Agricultural College	In. College.	13	166	166	16,880	676	47,320
Iowa	Ames	Iowa State Agricultural College	In. College.	15	300	75	34,822	850	51,000
Minnesota	Minneapolis	Minnesota University—Agricultural Department.	Univ. Dept.	8	6	6	13,901	120	12,000
Wisconsin	Madison	Wisconsin University—College of Agriculture	Univ. Dept.	16	124	124	13,490	196	40,000

AGRICULTURAL COLLEGE OF CANADA, 1878.

Ontario	Guelph	Ontario Agricultural College	In. College.	7	146	146	none	550	55,000



ONTARIO AGRICULTURAL COLLEGE, GUELPH.

REPORT

BY THE

FARM SUPERINTENDENT

AND

PROFESSOR OF AGRICULTURE.

ONTARIO SCHOOL OF AGRICULTURE,
31st October, 1878.

SIR,—I have the honour of reporting upon the outside departments of this Institution, for year ending date hereof, being the third of my management, and fourth of our practical existence. In a few introductory notes it seems desirable to place on record some events of the past season as relating to our position and progress, and first I must congratulate the country on having at last given their School of Agriculture that place in their regard which it has all along persistently but respectfully striven to attain. It is certainly a matter also of much pleasure that such appreciation of our progress is not confined to those more immediately interested. I am in possession, unsolicited, of several communications from men well known in public life, who, alive to the advantages of Agricultural Schools, and, it may be, estimating fully the character of our short warfare, could not resist giving expression to their opinion. One example will suffice, and that from a prominent Quebec gentleman:—"I have followed your printed reports with vivid interest; your earnest and thorough work must necessarily obtain, sooner or later, full recognition. I have visited Cirencester, Gembloux (Belgium), and Hohenheim, and, taking the date of your Institution's existence into consideration, I know of none which has done so much useful work in such a short time." Encouragement and sympathy have crowded upon us in other forms. James Ramsey, Esq., proprietor and editor of the "Banffshire Journal and North of Scotland Agriculturist," not content with sending free to the School, what has been known for 33 years as a first-class paper, but as editor also of the "Angus or Aberdeen Poll Herd Book," he offers to register the additions to our herd of this breed without charge. Professor Sheldon, of Cirencester Agricultural College writes very feelingly, and promises a visit ere long. It is only necessary that I recall to your memory the highly flattering notice we received at the hands of James McDonald, Commissioner to the Edinburgh Scotsman, in his report to the Highland and Agricultural Society of Scotland, on the "Agricultural Colleges of America," for which he was awarded a gold medal, and also in various other public ways needing no enumeration here. Perhaps no better expression of the value of the school has taken such practical shape as the number of student applications on record, and that yet remain unsatisfied by non-acceptance for want of accommodation.

The following will be the order of subjects in this Report :—

I.—The Weather.
II.—The Field.
1. Farm plan.
2. Cropping Abstracts.
3. Detail management of field cropping.
4. Reclamation of land.
5. System of cropping.
III.—The Live Stock.
1. General remarks.
2. Breeding.
3. Increase.
4. Special management.
5. Diseases and deaths.
6. Animal service to public.
7. Public sale.
8. Wool.
IV.—The Garden.
V.—The Mechanical.
VI.—The Experimental.
A.—Field plots.
1. Fall wheat, as regards produce and liability to disease.
2. Oats and barley, with different manures.
3 Spring wheats against each other.
4. Spring wheats under fall and spring manuring.
5. Barley, " " "
6. Our sugar crops.
7. Flax.
8. Grasses and clovers.
9. Lucerne.
10. Thousand-headed-Kale and Rape.
11. Peas and Peas.
12. Swede Turnips in opposition.
13. Turnips under fall and spring manuring.
14. Turnips under various conditions.
15. Mangolds in opposition, and result of transplanting.
16. Mangolds under four conditions.
17. Mangolds, turnips and carrots, under different manures.
18. Sewage on roots.
19. Carrots under various conditions.
20. Potatoes in competition.
21. Potatoes by different sized sets.
22. Potatoes under different manures.
B.—Animal fattening.
C.—Experimental summary.
VII.—Practical Instruction.
1. Special.
2. General.
VIII.—General Subjects.
1. Feeding value of our mangolds and turnips.
2. A hand-book on the cereals.
3. The milling of some wheats.
4. Our green fodder crops.
5. Root harvesting, and keeping in winter.
6. Our cross-breeds of cattle with reference to beef production.
IX.—Recommendations for 1878-79.
X.—General Review.
XI.—Inventory and Valuation.

I.—The Weather.

It must be matter of surprise to the scientist who is enthusiastic in the record and study of what governs all rural affairs, that so little of a kindred spirit is evidenced by those engaged, as it were, in the daily handling of it. Much of this indifference, however, is but apparent, and is the reflex of a nature unaccustomed to extensive reasoning outside the solid area of his own estate, for the interest is too real, and too home-going, to be an insignificant one even to him. As farmers we are intellectually full, but full generally by the character of the blade of grass, and what it will fetch in the market.

Our school is doing sound work in its Meteorlogical lessons, by the hands of the Professor of Chemistry, and as having had a good deal ado both with the science and practice of weather observations in Britain, I shall be pleased to see the day when every Canadian settler is alive to the fact that not a little of the regulation of rain and drought is in his own keeping.

First, I beg to submit a table shewing the rain fall and temperature for each of the six months of summer—that is from April to September inclusive, as taken at our Observatory :

The remarkable feature in this table is at once apparent,—the unusual amount of rain fall ; during six months there were but two occasions, in April and May, in which we had one week of continuous dry weather. In several instances, as shewn by the black bars, we had four and five days of incessant rain, or at least rain for the greater part of each day. Fully one-third of these six months was wet, and for each of the 65 days out of the 183 there stands the extraordinary average of nearly half an inch of rain. Then again as regards temperature we have a mean of only 61°, with the extremes of 99° and 28°—no less than a range of 71° during the season of growth and maturing.

The first half of April was dry and warm, giving excellent opportunity for seeding, so that with rain on the 19th and 20th, pastures, fall wheat, grass seeds, and tares and oats, had every advantage. But almost six continuous days of this proved too much for most lands, and with us during the latter part of April it was impossible to put a team of horses for cultivation on any of the fields—drained or undrained. Not only so, but up to the 12th May there occurred no favourable opportunity for seeding, as with the exception of the 1st, 5th and 6th, all were rain. This formed the division stage of spring wheat sowing ; some farmers had succeeded during the end of April and many had to wait until the second week of May. On the 8th of that month 1½ inches of rain fell in one hour (and 2½ inches in less than one hour on the 18th July). Then ensued a period of cold, beginning on the 11th and continuing until the 18th May, with the thermometer as low as 28° ; the remainder of May was weather of the best description for growth. Then came a snatch of frost on the 6th June, succeeded by three days' rain, and when turnip sowing, and mangold cultivation began on the 12th, land was in good trim. The middle of June was a time of great heat and an immense rush of vegetation, which was further increased by the needed rain on the 20th. Here, however, occurred another of the wet weeks that delayed our hay-making until the 28th, and then such heat during the end of June and beginning of July as gave a safe harvesting of it, and helped straw and roots very materially. The second week of July secured the establishment of the root crops,—rain being fine with sufficient heat throughout. Who does not remember the press of work in the third week of July—work requiring immediate attention, and all to be done in one week if possible ?

Finish hay-making.
Cultivate roots.
Cut fall wheat.
Rye overripe, and
Destroy potato bugs.

Many farmers failed to overtake the cleaning of turnips, and rather than exhibit what might be taken for carelessness had them ploughed under.

Cool winds came on the 22nd July, previous to which was the most incessant rain of the whole season—during the 25th and 26th of that month, there was no cessation from 5 p. m. to 4 p. m. of the following day—a very unusual circumstance in this country, and

in my experience of eight years here have not seen so many murky, mauchy, dauchy, dirty days in the seven as during this one. On 6th August we could have cut oats, barley, peas, and spring wheat but for the wetness. The 12th of August brought very fine harvesting weather of mild winds and sunshine. At 5 p. m. on the 16th August an unusual storm of hail did considerable damage within a limited area,—pellets were as large as ordinary marbles: vines, cabbage, and the leaves of all root crops were riddled and broken, and what grain remained uncut was laid flat with the ground. September came with no change, but with a decided increase of rain—an increase of nearly 50 per cent. upon previous months. All this made late ploughing for fall wheat and therefore later sowing (19th) than is usual in the country.

Thus ended a remarkable season for extremes of heat, cold, and rainfall.

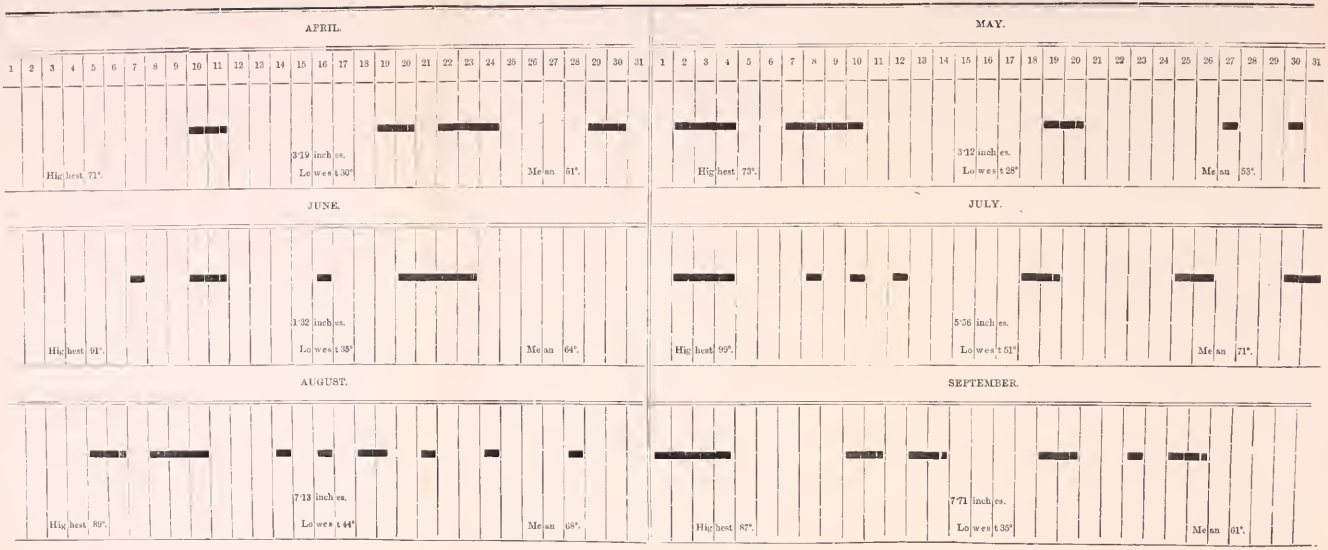
II.—The Field.

As in former years, the following reference plan will appropriately precede. It is time that some intelligible record were made of one of the most important permanent improvements still being prosecuted on the farm, and to date the coloured parts represent the area of drainage completed. When Nos. 4, 12, 16 and 17 are overtaken, it is evident that more than one-half will undergo thorough underdrainage.

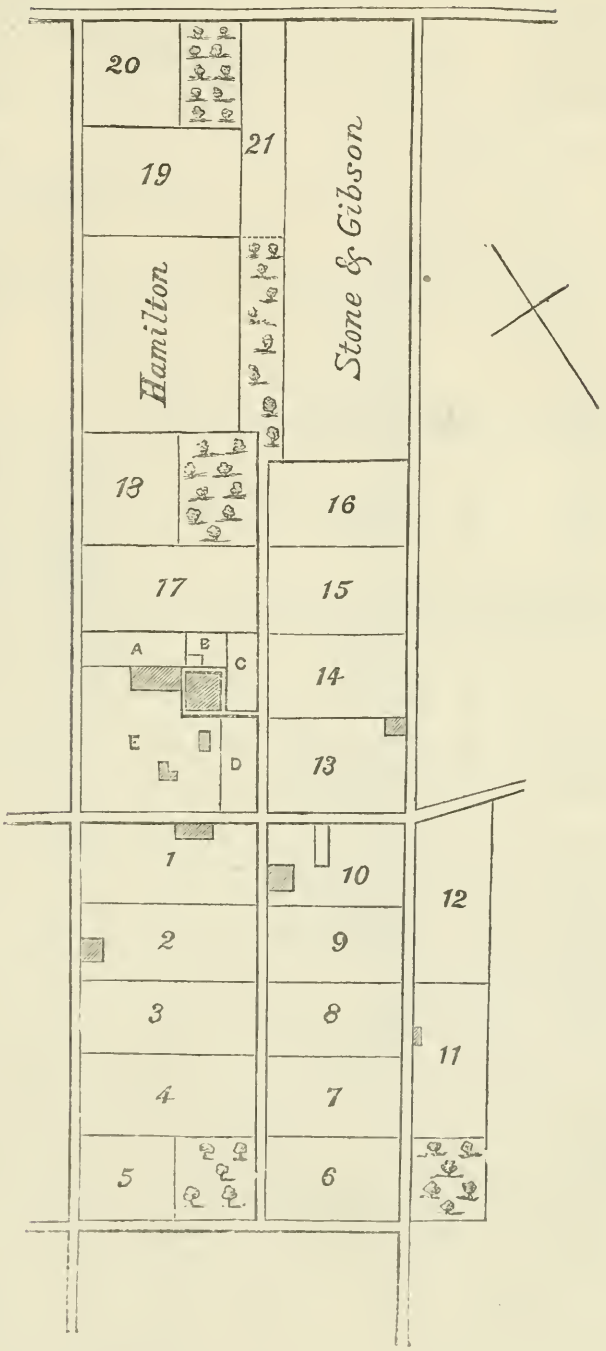
A, C experimented plots; B, paddock; D, garden; E, pleasure grounds.

1878.

Rain and Temperature during Season of Growth and Maturing, at the Ontario School of Agriculture.



NOTE.—The black bars show the days on which rain fell.


20
21
19
Hamilton
Stone & Gibson
18
16
17
15
A
B
C
14
E
D
13
1
10
12
2
9
3
8
11
4
7
5
6

2.—CROPPING ABSTRACTS.

First, examine the area of each field, extent of various crops, and the produce of each, per acre and in whole.

Field.	Area.	Extent of each crop.	Nature of Crop.	Quantity.	Rate per acre.	Remarks.
		12½	Hay	31 T	2½	
1	20½	5	Rye	.....	.....	Soiling.
		3	Tares and Oats	.....	.....	Soiling.
2	19	19	Hay	38 T	2 tons	
		12	Turnips	6,000 B	500	
3	22	7	Potatoes	1,750 B	250	
		3	Uncultivated	.....		
		6	Oats	294 B	49	
4	18¼	3	Rape	.....	.....	Soiling.
		9¼	Uncultivated	.....		
5	13½	13½	Pasture	.....		
		13	Oats	637 B	49	
6	25	12	Peas	360 B	30	
7	20¼	20¼	Peas	648 B	32	
8	20½	20½	Pasture	.....		
9	21¼	21¼	Barley	574 B	27	
10	20¼	17¼	S. Wheat	224 B	13	
		3	Oats	147 B	49	
11	21¼	21¼	Hay	64 T	3 tons	
12	18½	18½	Uncultivated	.....		
13	23	23	S. Wheat	299 B	13	
		14	Turnips	8,400 B	600	
		8	Mangolds	8,240 B	1030	
14	26	3	Uncultivated	.....		
		1	Carrots	910 B	916 B	
		5	Corn	.....	.....	Soiling.
15	21½	13	Rape	.....	.....	Soiling.
		3½	Uncultivated	.....		
16	22¼	18	Pasture	.....		
		4¼	Uncultivated	.....		
		9	Fall Wheat	288 B	32	
17	20	6	Oats	294 B	49	
		5	Instruction plot	.....		
18	19	12	Hay	30 T	2½	
		7	Uncultivated	.....		
19	30	30	Pasture	.....		
20	11	11	Uncultivated	.....		
21	16½	10	Hay	29 T	2 tons	
		6½	Pasture	.....		
	429¼	429¼				
		59½	Uncultivated.			
		369¾	Cultivated.			

There has therefore been of—

Fall Wheat	9	acres.
Spring Wheat	40¼	"
Oats	28	"
Barley	21¼	"
	98½	
Fodder crops, green	29	"
Roots, including potatoes	42	"
Peas	32¼	"
Hay	74¾	"
Cultivated Pasture	88¼	"
Fallow, Instruction Plot	5	"
	369¾	

Thus, at present, we have 370 acres under a regular course of cultivation and rotation, or two acres less than the estimate of last year. Taking our rotation standard as a check, it is shown that—

Cereals are 3½ acres less.
Legumens are 4 acres more (green fodder counting).
Roots are 10 acres less.
Hay is 23 acres more.
And Pasture is 16 acres less.

Or 20 acres more of exhaustive crops than are allowed by our guide. Altogether very near work consideing the improvements, changes, and general newness of things as yet.

3.—Detail Management of Field Cropping.

It will be unnecessary to repeat the character of the soil of each field as given last year, and in place of describing by fields, it will be of more interest and value for reference, to do so according to *crops*, at the same time that brevity is advisable under this head.

Fall Wheat.—Nine acres of No. 17 were put under Clawson, Silver Chaff and Gold Medal varieties on the 19th September. The land was rough from a previous bare summer fallowing, which was undertaken to kill thistles, and not by reason of any poverty, as my previous reports will show; and in place of using the broad-cast machine—drilling being out of the question, sowing by hand was preferred. The whole field is naturally wet so that in this crop we were conscious of the risk of failure and the gain of a lesson, if need be. Brairding was good, and when snow came to cover the plants sufficiently they were not so proud as to be endangered by overlapping to rot in changes of weather. Favourable conditions continued until 1st March, when a week's exposure ensued, and thereafter, up to April, repeated frosts and thawings made one-half the plants brown-killed or in the course of decay by upheaval and continuous wetness—not so much by any strong frost at any time. Yet, on the 4th April, in appearance, many of them had recovered, if a greenness all over is a safe criterion; and I believe if we could have used the roller at this stage, one-fifth of the crop would have been saved, but such was the condition by bottom wet that no work could possibly have been safe for land or horses. Harvesting began on 20th July, and all over was well secured.

Clawson was second in strength and amount of straw, the grain being the worst filled of the three.

Silver Chaff was a week later in maturing than the other, but had most straw and slightly the heaviest crop over all.

Gold Medal gave the best sample of grain, and in other respects resembled the Clawson. Average produce, 22 bushels per acre.

Spring Wheat.—This was in Nos. 10 and 13 with grass seed; the land being in grand order for roots—actually greasy in richness, and swarming with worms. As al-

ready explained, much rain made late seeding, as it was only on the 2nd May that we got a catch of a favourable day to drill a dry hillock in No. 10, and could not begin the finishing until the 15th. The cultivation consisted of part fall ploughing and was gang ploughed in spring, harrowed and sown at rate of 105 lbs. per acre : grass seeds 22 lbs. per acre, thus :

Timothy	8
Red Clover.....	10
Alsike "	4
	22

Anticipating a rush of straw, 400 lbs. of salt per acre was given, in order to check growth, and strengthen, if required.

Harvesting began on 10th August, and resulted as follows :

Russian,	15½	bushels	per acre.
Lost Nation,	13	"	"
Gordon,	12	"	"
White Fife	12	"	"

The quantities are clean grain after threshing, and the kinds are given in the order of merit as regards sample. Grass and clover were profuse—impeding cutting and delaying housing—the simple result of favourable weather, soil, and seed.

A low, mossy, vegetable, mucky spot in No. 13, drained three years ago, failed to show anything except rank weeds, either last year or this, and an application of lime produced but a temporary greenness to the dying wheat.

Oats.—Fields 4, 6, 10 and 17 carried these—part of our roughest, richest and dirtiest land. Fall ploughing with the common, and gang in spring, made a good seed bed for hand sowing on the 17th May, at rate of 2½ bushels per acre. Harvesting commenced on 7th August under great difficulty—most being so flat with the ground that where the reaper and cradle failed to lift, the scythe came into play. Plenty of straw and good heads. In order of merit this season, oats are :—

Black Tartarian (from Scotland),	56	bushels	per acre.
New Zealand	51	"	"
Hopetown.....	50	"	"
Emporium	40	"	"

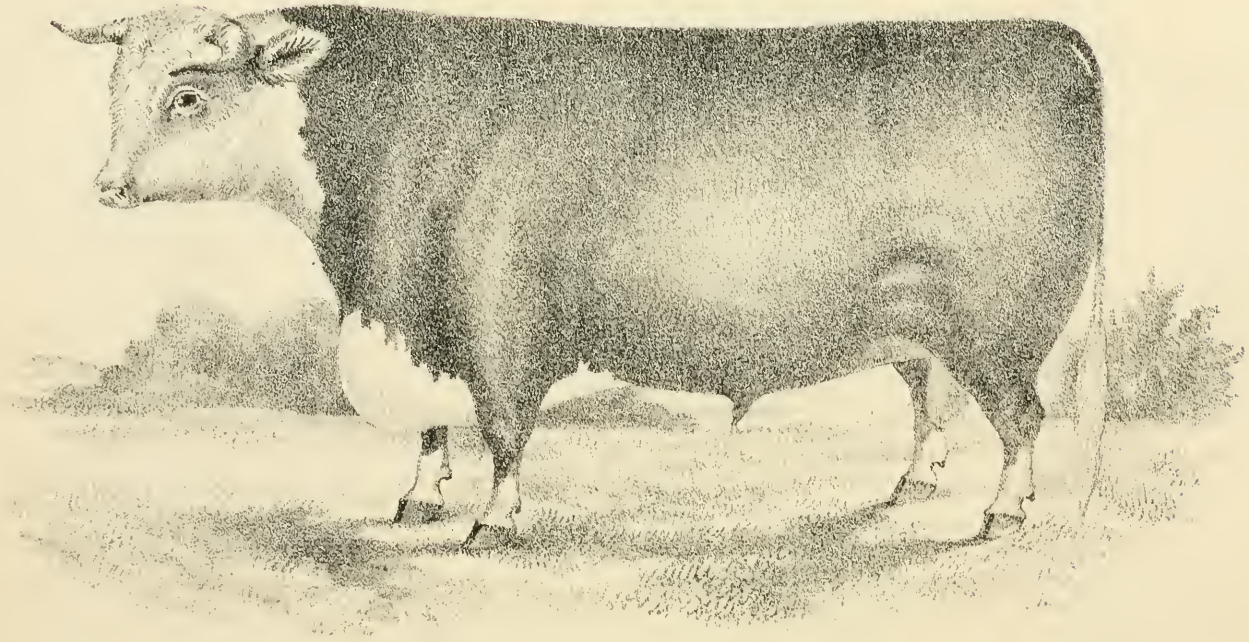
Tartarian straw was strong and on its feet when all others were badly lodged ; the Emporium behaved worst under storms, and the Hopetown had as much as 60 bushels per acre on some parts.

Barley.—All of the six rowed variety in No. 9 field, sown on 10th May, and harvested 6th August. Cultivation—fall ploughing 9 inches deep, and the gang 4 inches deep in spring. Seed 84 lbs per acre with drill machine. Crop badly laid with storm, and had to be cut with Mower, and gathered with Horse-rake, produced 27 bushels per acre ; straw short, and dark sample of grain. Young plants were slightly frosted in May.

Hay.—Was strong, and a close crop all over, ranging in quantity from two to three and one-half tons per acre. About half had to be stacked for want of house-room. Making began on 28th June with the more clovery parts. Top-dressing of Gypsum on 17th May.

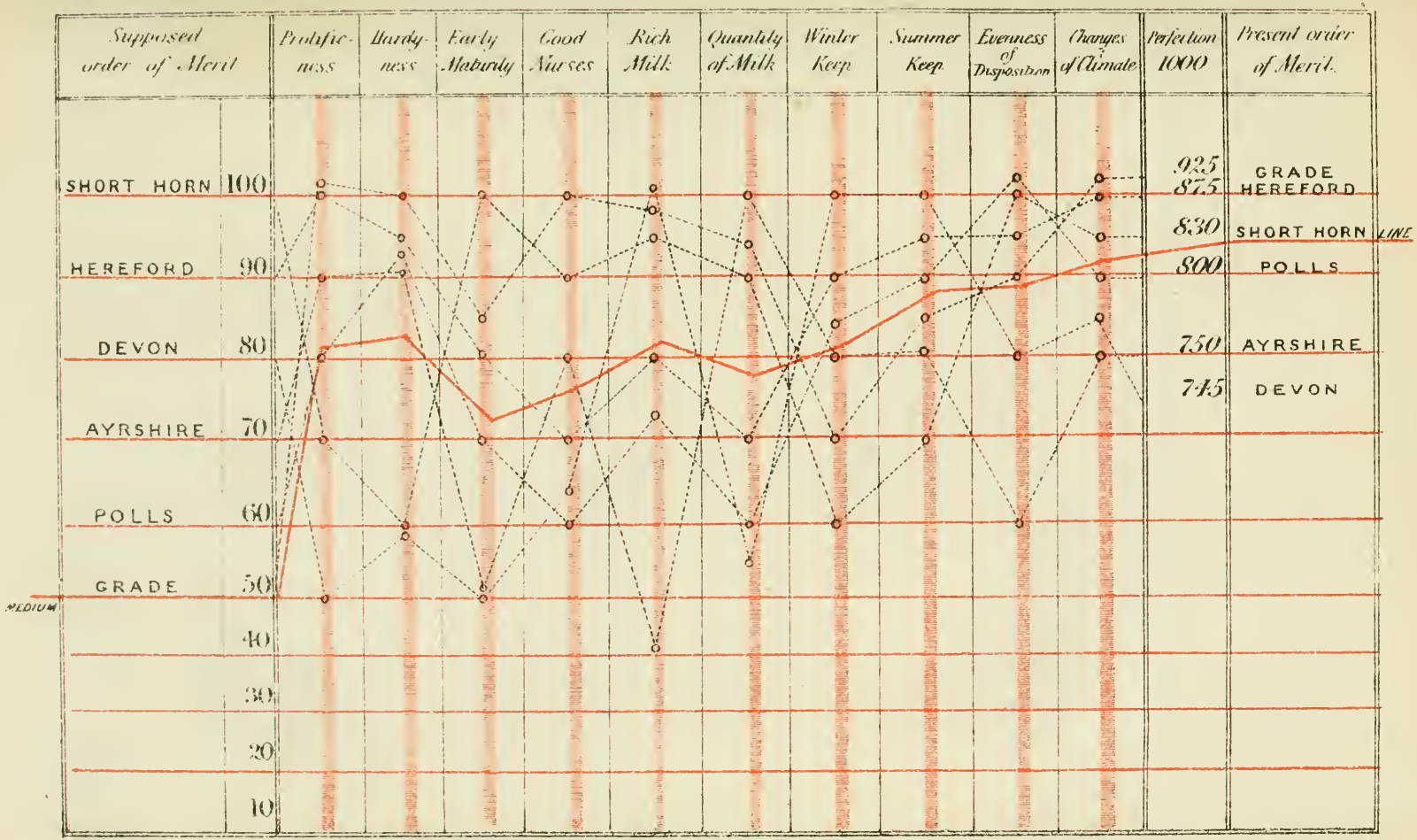
Peas.—These were Strawberry Vine, and Golden Vine in fields 6 and 7—rough, new land in one case, and an old cultivated one in the other. Drilling in No. 7 with 2 bushels per acre, on dry land, with three bushels in No. 6. Heavy straw, well podded, producing thirty-one bushels per acre. Tolton's Pea harvester was engaged and did its work best without a platform, thus leaving the cut unturned, to be put aside in heaps before return of machine. Sown 10th May, harvested 8th August.

Fodder Crops.—In "Our Green Fodder Crops," will be found full information as regards time and use of them, and all that need be added here is : Rape was sown on the 20th June. Tares and Oats on 15th April in proportion of one of Oats to two of Tares, drilling. Corn brairded on 20th June. For 1879 use, Rye was this year sown on 21st September.



Hereford Bull
"DUKE OF CONNAUGHT"

DIAGRAM SHOWING SOME CHARACTERISTICS OF DIFFERENT BREEDS OF CATTLE IN EXPERIENCE
OF THE ONTARIO SCHOOL OF AGRICULTURE, AS ARRANGED BY 2ND YEAR STUDENTS AND THE PROFESSOR OF AGRICULTURE.



Pastures.—We were enabled to roll all cultivated pastures on the 15th April, at same time re-seeding any blanky spots. Top-dressed with Gypsum at rate of 200 lbs. per acre on 17th May, when grass stood about 4 inches. Began to flood Rye Grasses and Lucerne with College sewage on 29th July. We had not a withered blade of grass, by drought, at any time of the year, on any of the fields.

Potatoes.—No. 3 field is broken on the west by a gravel ridge, and wet hollows to correspond. Of the seven acres of potatoes, four were upon this gravel and two in the hollows, the balance being intermediate. Planting commenced on 21st May, and gathering on 30th September. The land was ploughed previous fall, and encouraged by experience, the plan of spreading manure broadcast, (15 loads per acre) ploughing shallow with ordinary plough; drawing manure into every third furrow on which the sets were placed, was again adopted; drills thirty inches apart, sets twelve inches. The Colorado beetle plentiful as usual, was well kept down with 1 of best Paris Green to 40 of Gypsum. The crop would have been a large one but for the extra moisture. Almost every tuber in the hollows was rotted, as some were even on the sharpest gravel. Altogether a full four acres were harvested from the seven, and cellar picking afterwards reduced the quantitity to three acres—quantity of good potatoes 500 bushels from 1,500 bushels.

The varieties were:—

Late Rose,
Early Rose,
Crompton's Surprise,
Brunell's Beauty, and
Peerless.

The Early Rose was least rotted, and otherwise the heaviest crop along with the late variety of the same name.

Mangolds.—The soil of No. 14 consists of a light clay loam, with a subsoil inclining to sandy clay, part drained three years ago, and here and there are hollows of deep vegetable mould.

Cultivation began with fall manuring and ploughing, 15 loads of good farm yard dung; again ploughed in early spring, grubbed, twice harrowed, and rolled previous to an application of 600 lbs of bone dust and 400 lbs of salt per acre. We attempted a first batch on 17th April, but owing to wet had to desist after seeding a few drills. Unpropitious weather delayed further work until 13th May, when re-harrowing and re-ridging of the flattened and baked surface made ready for sowing on the 15th. Plants came freely on the 27th May, and were four to six inches in height on 3rd June, on the 12th of which month cultivation began as did thinning on the 20th. The May frost did no harm. As may be guessed we waged a big war with the weeds,—horse hoeing and hand hoeing four times each, until plants met in the drill. Seed per acre 8 lbs; drills 28 inches apart, and plants from twelve to fourteen inches in the row.

Varieties.—Same as in experimental plots, which see.

All seed was direct from Carter, of London, England. As to character of each sort, see "Our Mangolds and Turnips." By careful measurement the actual produce over-head was 1,030 bushels per acre. This is no small success, yet I am confident that with less moisture and longer time to mature, the crops would have been at least one-fourth more. Two hundred and fifty tons of mangolds, pitted in excellent order on the 14th October, make a comfortable spring prospect in a herd of 80 cattle and a flock of 190 sheep.

Turnips.—With cultivation similar to what the mangolds had and 400 lbs. salt with 150 of Gypsum on No. 14, and an addition of some bone dust in No. 3, turnip sowing opened on the 12th June; were well marked on 20th, and had their first thinning on the 9th July. Seed 2 lbs. per acre. Average produce, 550 bushels per acre.

The kinds were similar to those in experimental plots.

The remarkable season affected our roots in the same manner, but took two forms: mangolds became hollow from the neck downwards without leaving any soft rot; turnips in the like position of the bulb, but having a watery pulp, in many cases without an outlet, and in others connected by a small aperture through the neck; carrots split from the centre pith.

Carrots were least, mangolds next, and turnips were most affected, but much less on old cultivated dry spots of land.

Carrots.—White Belgian and Altringham varieties occupied one acre adjoining the mangolds. Both are good, the Belgian in advance. Seed 4 lbs. per acre; cultivation similar to other roots; yield 910 bushels.

4.—Reclamation of Land.

The improvement of entirely waste fields, and spots of others mostly cultivated, is being gradually undertaken by stumping, stoning, drainage, and fallowing. Nos. 4 and 6 are of the former, and 14 and 15 of the latter character for the present report. In all this work there has been excellent opportunity for student lessons,—in the handling of the axe, working of oxen, burning, and the necessarily difficult ploughing of new land. Economy was illustrated in the care of materials for house fuel, in the utilization of stone for the building of a dyke (see Mechanics), road grading, cellar building, and partly for drainage. Drainage has been unusually difficult this season, especially in field 14, where a low lying piece of swamp exists. The second year students were employed to take all the necessary levels, make plans, and working sections, and generally assist in superintending the progress of the cutting, checking levels, laying tiles, and filling in. It is not generally difficult for the average farmer to judge correctly as to fall required for small jobs, but when twenty acre fields are undertaken, with two or three lines of main, and their respective branch drains, systematic and careful work is indispensible to success, especially where a fall of one inch in two hundred feet is of the utmost value—where the sub-soil is a loose gravel or sand continually falling in, and where men's lives have to be cared for in a cutting of ten feet of such material. As drainage is the forerunner of most other improvements, and one that is largely lost, unless followed up by others, I have given it a prominent place in our studies—in the class-room and field. Here I am called upon to refer to the warm interest taken in this matter by your predecessor, the Hon. A. McKellar, both by Statute enactments for the Province, and setting an example on this farm. His work and what has been done since, already enables me to point the student to the practical proof of the results or effects, of thorough drainage – that it

1. Removes superfluous water.
2. Allows free access of air.
3. Makes available, materials, that were formerly useless.
4. Destroys injurious substances.
5. Saves time and labour.
6. Saves seed.
7. Pulverises and cleans.
8. Quickens the action of manures.
9. Hastens harvest.
10. Improves the nutritive value of crops.
11. Retains moisture during drought.
12. Gives a deeper soil.
13. Improves water for health of animals.
14. Removes certain animal diseases.
15. Improves the general health of the district.

I estimate that when drainage is completed on this farm, the difference between the value of it then, and what it would have been without such reclamation will be equal to an addition of 110 acres. Having had the superintendence of Government drainage money in Scotland and realised the immense immediate value of its judicious application, I am surprised at the short-sightedness of many of our most enterprising farmers. If Scotland, with its comparatively poor soil and unpropitious climate, can pay a $10 rent per acre, and interest at £6 14s. 1d. per cent. per annum for twenty-four years on the drainage of land that many of us would consider unnecessary, and yet stand first in the world for good farming and profits, there is surely a grand future for the swamps and high-lying spongy fields of Canada.

5.—System of Cropping.

Some idea of our system of cropping, the objects thereof, and any results so far, will appropriately close the field notes.

Our rotation, you will remember, is the seven years', thus:—

1.—Peas.
2.—Wheat, or oats.
3.—Roots.
4.—Grasses, with barley.
5.—Hay.
6.—Pasture.
7.—Pasture.

The natural question is, why was this adopted in preference to others, and what is the result so far as realised? In my 1876 report, it is said that the "local peculiarities" had guided the selection, and these, it had better be said, are a very irregular character of soil and subsoil—inclining generally to light loam, and varying from pure gravel, through gravelly loam, light loam, loam, loose vegetable mould, light clay loam to what is nearly a clay loam—some resting on a gravelly bottom, others on sand, sandy clay and shell marl, and clay—but gravel and clay loam predominating—all an excellent subject for an Experimental Farm, though not all good for excellent experiments. These, with long previous unsystematic work and much poverty, demanded an early and certain change—one that would ensure fertility within the term of its own rotation if possible. Wheat and hay have ever been the Canadian farmer's refuge, and few ever reflect that such cropping, however alternated with peas, oats or barley, is almost equivalent to continuous wheat-growing as regards exhaustion. It is a false idea that timothy and clover in the shape of hay is a resting one to the land; for practically there is no difference between them as seed maturing grasses, and therefore most severe in their effects. No extent of cattle or sheep depasturing, of the character in common here, after haying, can make up for the removal of the matured plants. It is not wheat after wheat alone then, that has brought about our present difficulties in getting a clover or timothy catch, and the old average of forty bushels of wheat per acre. A surface living plant is made to follow another surface living one, both are uncultivated during growth, and the land becomes dirty and impoverished despite clover rootage and bare fallowing.

An examination of the seven course given shows that with the pea as a deep and strong rooting plant, after two years pasture, we ensure a breaking up of the sod, and a mealing of the soil that prepares the way for the cereals—but only one year's wheat or oats observe. In the third year comes a thorough cultivation, manuring and cleaning, with a crop that feeds from below and from the atmosphere, so that the commencement of a complete recuperation of the soil is assumed at this stage. Following this is the seeding down with grasses, having a light crop of barley for partial shelter and profit, and if the richness of the land upon the liberal and successful management of roots will justify, wheat may well take the place of barley in these respects, but never otherwise—never because the market demands it, or other fields are unsuitable; greed in this has ruined many fine farms. With the best catch of grass, the hay of next season—the only one of the course—may only be fair, taking an average of seasons, yet this medium quantity is as much owing to the nature of the crop as to external causes. All grasses and clovers need time to root and tiller, however favourable the conditions, and thus our experience agrees with many others—that on land in excellent order the second year's hay is invariably the best. Here is a dangerous temptation in the case of improving a worn out farm—and to this all my remarks refer. While I admit it is true in theory and practice that land, that has given one good crop, will in succession give another of the same kind, yet the process of exhaustion is but repeated, and without husbanding, the main object of the whole work is defeated. The sixth and seventh years are pasture—if rank and apparently wasteful according to the stock kept—good; and if any one says—too little hay and wheat, and too much pasture, then I say, no renewal of soil and no good crops of any kind.

When our farm is thus systematically gone over, then will we be in a position to change the rotation of cropping, but not till then. The result so far is most satisfactory, and I have no doubt another three years will witness a new farm.

III.—The Live Stock.

What everybody is supposed to be conversant with is not only one of the most difficult things to handle in a necessarily short space like this, but may be looked upon as largely superfluous; yet the receipt of many enquiries from Britain and among ourselves, as to how our various breeds are progressing, will, I trust, be excuse sufficient with you under this heading.

Short Horn history during the last twelve months in America and Britain has unfolded several phases that should be warnings to Canada, with reference particularly to "high blood." without individual merit and productiveness. Had we followed this line in 1876, there would likely now be fewer overflowings and less appreciation of our efforts. We do not hold one case of non-breeding in a herd of 50 cattle.

I have formerly referred to the questionable position of bull management here, and to this is partly due the treatment that had to be adopted with the Duke of Bedford (36,466). Want of regular exercise in all weathers by non-possession of loose-box and court accommodation is probably the final cause of apparent sterility—the primary one may have been some overfeeding in England, followed by a much lower diet ever since his arrival here. There is an important physiological question in this case,—one which I have not seen discussed publicly: Is there danger to the procreative powers of a short horn bull fed largely on meal, &c., in England up to twenty months old, and after importation to receive nothing but green fodder, hay and turnips? I am myself of opinion that, in this case, we have been underfeeding with large quantities of cooling vegetable materials. Thinking that more exercise and entire change would be beneficial, the bull has been grazed on old pasture, part cultivated and part bush, from 21st May to end of October, with cows for company. The result has been a very considerable reduction of flesh from what was considered to be a medium, and now he is in comparison with his previous condition, much more useful. I do not forget that the subject of these remarks is one of a class that has been so much interfered with by man—since Bakewell and Colling—that it may be said, if entirely confined to ordinary pasture in summer, and corn fodder, hay, straw, turnips, and mangolds in winter, he will deteriorate to such an extent as to become useless for breeding.

The Hereford and Devon bulls are in higher flesh than any others, and have all along been more reliable under confinement and the ordinary fodder already named. The value of any breed of domesticated animals lies in the value of their progeny; for example, take our Herefords: Imported in September 1876 at a cost of $1,161 for one bull and two heifers, what have they done to date hereof?

Keep of three animals for two years		$300
Two bull calves from 1876–77, value at present time	$1,200	
One bull and one heifer calf from 1877–78	430	
Keep of two first calves for year		100
Value of service of " "	30	
Original cost of importation		1,161
	$1,660	$1,561
Balance to credit		99
		$1,660

Without including $100 as the extra value of the original animals at present time. So that within two years of importation these animals have actually cleared themselves and still remain young, fresh, and sure. *All the figures given have been received or offered for each,* and the debit items kept at the highest.

I am of opinion that when this farm is in possession of two herds of short horn, and one of each of the four other breeds of cattle—that is, one male and five females each—all their produce whatsoever should be sold as soon as circumstances permit. As I write we have for breeding purposes two herds of short horns; one male and three females of Hereford, one male and female of Devon, and a herd each of Ayrshire, and Angus or Aberdeen poll, so that we are yet short in Herefords and Devons.

Having only one Devon cow, we should purchase another in Canada in order the earlier to complete our standards, as such a desirable object should not be delayed beyond 1880, when it is presumed that other essentials for a model will be completed.

The even tenor of short horn life is now well understood all over the civilized world, but much remains for trial outside Britain, with other kinds. Herds of Hereford, Devon, Polls, and even Ayrshire, are comparatively rare on this continent, and so any facts bearing upon their conduct under certain conditions should be interesting. Our experience so far points to the following: (See annexed diagram.)

All this remember may be modified as experience widens and individual animal character developes, or changes, and no doubt, you will observe that the points embraced are placed at equal value—it being left to special requirements, or individual opinion, to say what some, or all, should be; for example, in place of the early maturing of the short horn being represented by 100, as the proper proportion of the total value of 1,000, 500 may not be considerd too much for that particular item, and so on.

A good way to examine this diagram is to follow the medium line and observe, under each quality, what breeds are above and below it.

It appears then, by present experience, that the cross of a thoroughbred short horn bull upon a Canadian cow, carried out to within a fourth of being admissible to the herd book, is high in prolificness, hardiness, good nursing, richness of milk, and in withstanding climate changes (a different thing from hardiness), but is only medium in early maturing and cost of keep. The Hereford, as second in this valuation, is high in reproduction, cost of keep—that is for small cost—evenness of disposition, and acclimitization, while low in maturing, nursing and milking; the short horn is low in regular breeding, hardiness, and keep, but otherwise high. Angus or Aberdeen polls hold a medium throughout; and Ayrshire and Devons are about equal—having the remarkable extremes of milk and nonprolificness.

2—Breeding.

Few subjects puzzle so much as the unlooked for results of the best laid plans to produce certain forms of animal life, and while not pretending to be in the possession of any secrets, or much that is even new to the many in this deep study, it forms part of our duty to the country to state the how and what of management here, however simple or poor in results.

We have followed the general practice of allowing heifers to go over two years before being mated; in the event of abortion the cow is given her natural time, being sucked by another calf, and should a second mishap occur, the animal is carefully, and as soon as possible, dried of milk, placed on food of average richness, and a thorough rest of nine months permitted. We have had abortion with all our breeds except Hereford, and invariably when six months' gone. Every animal has been under identically similar treatment, and as several immature births have taken place at all seasons, the cause or causes must be outside any infection, or food influence, and should probably be looked for in roughness among themselves when out at water and grazing, or incautious handling with so many students. Complete isolation of the individual animal, disinfection of houses with lime, and rubbing every breeding female over the nose and mouth with tar are the means we use to check.

All thoroughbreds suckle their calves, first by unrestricted access for from two to four weeks according to strength of the young one, and afterwards at stated times, thrice and twice daily, both in winter and summer, the calves being housed in loose boxes, going to their

mothers in winter, and in summer the cows are brought from the field, in all which practice it is considered we secure the following most important advantages :—

1. Avoid milk-scour, and loathing.
2. Calves get rest and extra food between times, with a keen relish for milk.
3. Cows get quiet feeding in house and field.
4. Bull calves cannot annoy cows in season.
5. Weaning is not so abrupt nor difficult.

This is continued sometimes for six or seven months. We have had no case of false marking by allowing females of all breeds to run together at all seasons—no white spots on face of Poll, nor black on Herefords. Our existence is yet too young to say much about the effects of outside crossing. In our circumstances it would be risky to try, for example, a Short Horn bull upon Poll cows, but when numbers give us scope, such experiments are evidently an important part of our work. However, I have to report a successful case out of a heavy well-bred Durham grade, by the Hereford bull. The result is a strong bull calf, taking mostly after the sire in colour and general stamp.

We have put our Galloway cow to the Aberdeen Poll bull, and two grades to the Ayrshire meantime.

Sheep.—In my opinion we have had remarkable success in sheep-breeding during the past season. The mild winter, added to careful feeding and reliable stock, explains much of this. Out of seventy-six, only three were yield, two Cotswold and one Oxford Down —apparent cause a constitutional tendency to fat. A great storm of wind and snow on the 9th February, brought three Cotswold ewes ten days before time—two of the five lambs dying. The first South Down came on 12th February; the first Leicester on the 15th; first Oxford Down (triplets) on 18th, and on 23rd February, we could count as the result of the *first batch*, or what some may consider as "fast" management,

Cotswold	27	lambs from	16	ewes.
Leicester	5	"	3	"
South Down	14	"	10	"
Oxford Down	5	"	2	"

The practical flockmaster will corroborate as regards the effect of storms upon sheep heavy with young, and as to their coming in batches—the latter fact to be referred to individual constitution, and weather when with the ram. In our case there was a blank from 23rd February to the 7th March, when the second instalment of Cotswold and Leicesters came freely. It was very noticeable that the first dozen of Lambs of this latter harvest were very much smaller and weaker than the earlier crop, though towards the end of March the lambing was stronger and better.

On the 7th March we had 15 lambs from 5 ewes—13 alive, the two deaths Cotswolds, and on that day I made the following memorandum :—

Cotswold lambs averaging	24	days	old	gave a mean	weight of	19	lbs.
Leicester "	18	"		"	"	24	"
South Down "	21	"		"	"	20	"
Oxford Down "	16	"		"	"	17	"
Cross of an Oxford Down ram upon a Grade ewe	20	"		"	"	21½	"
Joint weight of Cotswold triplets	23	days	old.....	.....	.....	49½	"
" " Oxford Down do.	15	"	.....	.....	.....	46	"

There is much interest in these figures. I think I am safe in saying that of the sheep we have, the respective order of weights when matured in England, is—

1. Cotswold.
2. Leicester.
3. Oxford Down.
4. South Down.

But the first start does not say so, I may add that 1876 and 1877 brought out the same facts. According to age, within one month after birth, our experience has been :—

1. Leicester.
2. Oxford Down.
3. South Down.
4. Cotswold.

Yet, according to ultimate results, the heaviest mutton at three years of age—or the end without relation to the beginning, the order has been in exact correspondence with the first of these lists.

Lambing ended, practically, on the 30th March, only three ewes being then on hand.

The comparatively new breed called Oxford Down has some peculiarities worth noting. The lamb comes with black spots, mostly over the hind quarters, loins, and part of the ribs, and these are more numerous on the females than on the males ; the tail is unusually long and bushy ; wide forehead, rough ear, a narrow, clean muzzle, and a comparatively narrower chest than the South Down. The spots gradually disappear, first from the rams and then the ewes—all within eight weeks.

The grand result of our sheep breeding for 1878, is :—

58	lambs	from 40	Cotswold	ewes.
20	"	from 15	Leicester	"
19	"	from 12	South Down	"
5	"	from 2	Oxford Down	"
102	alive			

On the 30th April, 76 ewes and 102 lambs were put to grass.

Horses.—Owing to having so many permanent improvements on hand, the breeding of horses had to be discontinued two years ago ; the two colts and one filly from 1875 and 1876 are doing well—the filly and one colt being gradually broken to work. From a three-fourths bred Clydesdale mare by a pure Clydesdale horse we have got a stamp on the heavy side for general purposes. The three-year old colt weighs 1,760 and the filly 1,270 lbs. We had an offer of $250 for the former—in want for the British market.

It is a matter of important consideration whether the Government should keep here a first class stallion of the lightest stamp of Clydesdale ; no consideration of local jealousies need stand in the way, as it would be easy to arrange stations for him in the principal parts of the Province.

Swine, Poultry and Dogs.—There is nothing requiring particular notice as regards swine breeding. " Prizeman," (1,407) continues to throw well-marked handsome offspring now well known throughout the country.

In poultry we have had more than former success—but even under the improved special student management, our accommodation, with eight breeds, is not such as to ensure first class results. Ducks (Rouen) have done best, and light Brahma, Silver-specked Hamburgh, Howden, Plymouth Rock, Dorking (grey), Black Spanish, Dark Brahma, and Partridge Cochin, respectively.

3.—Increase to Live Stock.

By our own breeding since 1st November, 1877, we have added to herds and flocks thus :—

21st Nov., 1877.—Snowstorm, Short Horn, out of Rosalie by Duke of Bedford, (36,466).

11th Feb., 1878.—Eyebright 3rd, Aberdeen Poll, out of Eyebright, by Gladiolus (1,161).
14th Feb., " —Model Beauty, Ayrshire, out of Beauty of Drumlanrig, by Sir Walter.
20th April, " —Bull Calf (steered), Short Horn, out of Martha, by Duke of Bedford (36,466).
23rd April, " —Princess Louise, Hereford, out of Princess May 2nd, by Duke of Connaught, (4,528).
8th May, " —2nd Duke of Manchester, Hereford, out of Heatherbell, by Hero ( ).
14th " " —Flora of Guelph, Ayrshire, out of Flora 3rd, of Drumlanrig, by Sir Walter.
11th Aug., " —Model Hero, Short Horn, out of Ury 11th, by Duke of Bedford, (36,466).
27th " " —Haughton Lass, Aberdeen Poll, out of Leochell Lass 4th, by Gladiolus (1,161).
23rd Oct., " —Rosalie 2nd, Short Horn, out of Rosalie, by Duke of Bedford (36,466).

Besides there are several grades of a superior stamp, our practice being to retain the best heifers for future use, and steer the males that are worth keeping.

By purchase we have got

One Galloway cow,
One Galloway steer,
Eleven Cotswold shearling ewes,
Two Border Leicester shearling ewes,
One Cotswold shearling ram,
One South Down shearling ram,
One Berkshire sow.

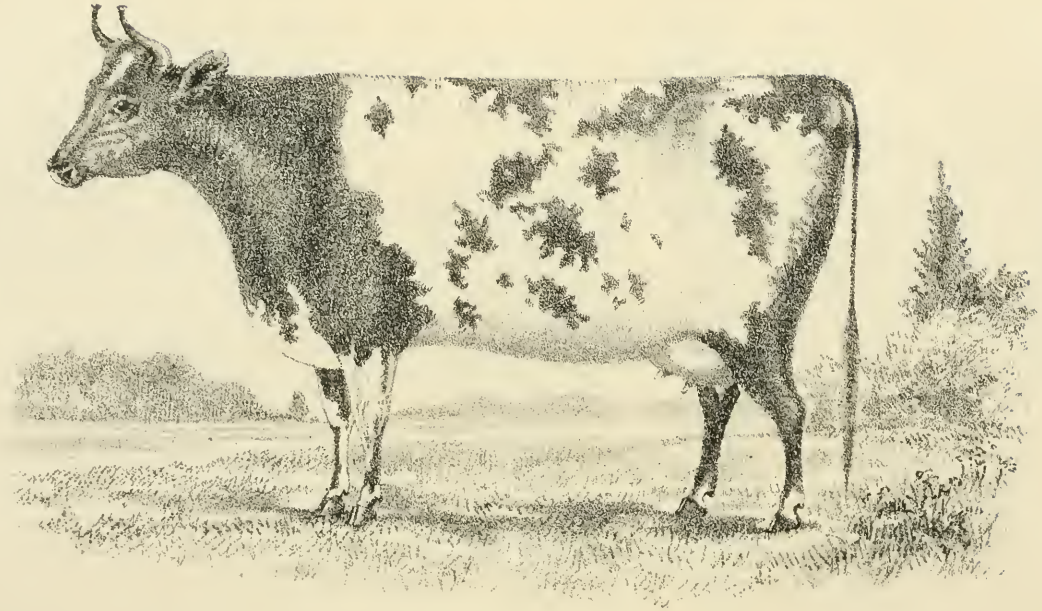
4.—Special Management.

Last year I gave abstract of mode of cattle management here—let this briefly sketch that of sheep :

Sheep were housed for the winter on the 30th November, 1877. Much of the success of this branch of our live stock is owing to large covered courts and open yard attachments. It is a great mistake to confine sheep except during two weeks at lambing, and then in degree only, as regulated by state of weather. Whatever the cold, the animals should have freedom to choose out or in doors ; indeed fall and spring wet is more prejudicial than 30° below zero. No doubt, food must be good and plentiful, and exercise should not be neglected as early spring advances, thus, on the 12th April, ewes and lambs had a run to paddock for the first time, a few hours during the afternoon—this was the first step ; the second consisted in grazing all day, beginning on the 26th April, but being housed during night, and on the 6th May they got out for the whole season. Clipping began on 28th May, dipping on 19th June, and lambs were weaned on the 23rd July. While at grass, lambs are allowed a little bran, peas and oil-cake, by enclosing a corner with hurdles, leaving space between each sufficient only to pass lambs.

I have often been asked, what goes to make the price of a ewe or ram, and having given the subject some special attention, I should like to record our experience. Of course the question is one of 100 head and not one of 1, or a dozen only, as for fair representation, what engages the whole time of one shepherd, is the proper criterion :

Any responsibility in animal life begins with the mating of male and female, therefore, expense begins then. Let the case be for a flock of 100 pure bred, long wooled ewes, Leicester or Cotswold, with equal numbers of ram and ewe lambs as result of produce.



"BEAUTY OF DRUMLANRIG"

DEBIT ONE SHEEP FOR TWO YEARS WITH

Service of ewe 1st October, 1876	$1.50
Keep of ewe to 1st March, 1877	2.10
Winter keep of ewe and lamb from 1st March to 1st May	1.50
Dipping ewe and lamb	0.05
Summer keep of ewe and lamb, 1st May to weaning, middle of July	1.20
Keep of ewe to 1st October when again served	0.75
Balance of summer keep of lamb (after weaning), to 15th November	1.75
Keep of lamb winter 1877–78	2.25
Washing, spring, 1878	0.05
Dipping the "shearling"	0.03
Second summer keep, to 1st Oct., 1878	2.80
	$13.98
Attendance	5.50
Medicine	0.30
Loss by deaths	1.00
Total charges against the shearling	20.78

CREDIT.

Wool	$3.10
Manure and pasture improvements	1.75
Shearling sold for	23.00
	27.85
Balance to credit	7.07

Taking the low proportion of one and one-fourth live lambs to each ewe, the flock having been reduced by deaths to 94 ewes, and 118 shearlings, we have a net gross profit of $763, or $382 per annum, which is equal to over 11 per cent. on the invested capital of $3,360—that is $3,000 for 100 ewes, and $300 for two service rams. The best management and the best stock are implied in this result. In such a flock the difference between a first class shepherd, and an ignorant careless one is more than his wages, $400. per annum.

5.—DISEASES AND DEATHS.

In submitting this memorandum, it must be understood, as that of an ordinary farmer, and without any pretensions to minute description, or even to accuracy in every case, as what I may consider the cause of death, or the nature of a disease, may be or might have been, different on more scientific investigation.

Cattle :—

1st March, 1878.—If an infection of lice is a disease, we have it in plenty, supposed cause, strange cows coming for service.

Sheep :—

20th Nov., 1877.—Leicester ewe died ; bloated on frozen grass.
23rd Dec., " —Cotswold ewe died ; being *fattened* for sale.
4th Feb., 1878.—Valuable South Down ram lamb found dead in pen ; cause apoplexy from lying on back—"awald."
1st April, " —Oxford Down ram, lame with rheumatism.

2nd Aug., 1878.—Shearling Cotswold ram, on rape, with access to old pasture, died from inflammation after diarrhœa, or sudden change of food.

20th " " —Some gangrenous foot sore; cause, continuous wet.

Pigs.—

28th Jan. 1878.—Old Windsor boar down with what appears to be paralysis of the spine, or over the loins; not highly fed nor over-worked, having plenty change of food, but too much confined; has largely recovered.

19th April, " —Young Berkshire boar died, apparently of lung disease.

3rd Oct., " —Young Berkshire sow died from inflammation of the liver.

Horses.—

5th July, 1878.—A serviceable old mare died very suddenly; was well in the morning; went to turnip hoeing, took ill, and died within an hour; cause sunstroke, or brain affection, from the state of the weather.

6.—Animal Service to Public.

Again, I can use no better form of shewing this than by diagram—that is the relative extent to which each male of each breed of ours is sought after by the public for service in their own herds and flocks.

Cattle.—

Short Horn .....
Hereford ....
Devon ....
Ayrshire .....
Aberdeen poll.

Sheep.—

English Leicester.....
Border Leicester.....
Cotswold .....
Oxford Down .....
South Down ....

Pigs.—

Berks ... .
Windsor ....

Dogs ....

Therefore what swept Paris from Aberdeen this year still goes without a fee in Canada, and what is receiving very considerable attention in the UnitedStates is still unrecognized with us—the Oxford Down. Observe that this condition of things is largely regulated by our local connections, and should not be looked upon to these extents, if any, as Provincial rather the public sale tone should be taken as a criterion of Ontario's estimate of our materials.

7.—Public Sale.

In connection with this, peruse first the following excerpt from the Catalogue Announcement:

"In accordance with the resolution announced last year, the Ontario Government have much pleasure in again calling the attention of Farmers to what is now the Second Annual Sale of Surplus Live Stock at the Experimental Farm.

"Breeding has improved so materially during the last twelve months, that the Institution is not only in possession of choice standard herds, and flocks of all breeds, but can dispense with a number of most of each.

"The vigour of all the regular stock animals has been remarkably good—every male and female of every kind, with the exception of one cow, has given produce, and that produce, in some cases, is of marked individual merit, and others have obtained commendation of a very fair character. This is the result of careful work, especially as regards feeding, which, with other favourable conditions, enables the Government to offer sound and reliable young stock for breeding purposes.

"Particular notice is this year invited to the Sheep Catalogue. The crop of Lambs has been so plentiful, that the usual success of winter management could not be endangered with so many additions, and accordingly a select lot will come under the hammer.

"The necessity for new blood, in the ordinary course of breeding, accounts for the appearance of two of the first imported Rams—to secure which should be an object with other Stock-masters.

"A new feature of this Sale will be SPRING GRAIN. While an experimental station, and not professedly one for production of particular cereals, as antagonistic to the "Trade"—surplus in these must also be disposed of by public sale, according to the report of the commissioners of 1874. Of course the Farm is not yet at a stage when many new, improved, or well tried varieties can be confidently recommended, and, as much of the individual sample depends upon seasons, those of the present may not be equal to other years, though soundness, purity, productiveness, and quality, have formed the grounds of the selection."

In addition to detail pedigrees, and securing single fare return tickets by the Grand Trunk and Great Western Railways, the following letter was separately posted to all Secretaries of Agricultural Societies in Ontario—some 315 in number:

"DEAR SIR,—Would you kindly, at your next meeting, lay before the Directors of the Agricultural Society, of which you have the honour to be Secretary, the accompanying Catalogue of Thorough-bred Stock, which we intend to sell by Public Auction, on September, 12th.

As we are breeding into herds of the six principal varieties of cattle, we are forced to retain at present most of our young stock; and as you will see by a glance at the Catalogue, the principal things we have as yet to offer the farming community are sheep and pigs; but these, as well as everything, are guaranteed to be of the best.

A discount of ten per cent. will be allowed on any purchases made by the authorized Agent of any Agricultural Society in the Province upon the production of his papers of authorization.

I have the honour to be,
Sir,
Your obedient servant,
WILLIAM BROWN."

RESULT OF PUBLIC SALE, 12TH SEPT., 1878.

Lot.	Class.	Purchaser.	Amount.	Total.
	I. CATTLE.		$ c.	$ c.
1	Yearling Short Horn bull	H. Glazebrook, Simcoe	100 00	
2	Short Horn calf	Peter McGregor, Mimosa	71 00	
3	Hereford bull calf	G. H. Burleigh, Mechanicsville	130 00	
				301 00
	II. COTSWOLD SHEEP.			
1	Three shear ram	W. Feicht, Ariel	90 00	
2	do	T. McCrea, Guelph	51 00	
3	Shearling ram	Robert Hasminston, Mount Forest	31 00	
4	do	W. C. Smith, New Hamburg	33 00	
5	do	A. McDougall, St. Mary's	27 00	
6	do	F. W. Stone, Guelph	30 00	
7	do	J. McGowan, Alma	40 00	
8	do	Robert Towers, Woodstock	23 00	
9	do	J. H. Bean, Winchester	31 00	
10	do	H. Arkell, Arkell	84 00	
11	do	E. J. Brown, Leeds	25 00	
12	do	J. Kay, Guelph	41 00	
13	do	Ed. Passmore, Marden	21 00	
14	do	J. H. Bean, Winchester	24 00	
15	do	P. McGregor, Mimosa	76 00	
16	do	E. McDonald, Guelph	20 00	
17	do	Geo. Rudd, Guelph	34 00	
18	do	Daniel Campbell, Amberly	20 00	
19	do	James Moon, Woodstock	21 00	
20	do	W. Watson, Nassagaweya	21 00	
21	do	W. McAllister, Winnipeg	19 00	
22	do	Geo. Forbes, Kertch	12 00	
23	Ram lamb	D. S. Robertson, Wanstead	32 00	
24	do	R. Martin, Verdun	16 00	
25	do	A. J. Stover, Norwich	30 00	
26	do	D. Currie, Mount Forest	29 00	
27	do	G. H. Burleigh, Mechanicsville	26 00	
28	do	Valentine Feicht, Ariel	13 00	
29	do	Thos. Waters, Rockwood	14 00	
30	do	R. Benner, Orillia	11 00	
31	One pair aged ewes	Jas. Wright, Guelph	25 00	
32	do	W. Elgie, Barnett	20 00	
33	do	D. S. Robertson, Wanstead	20 00	
34	do	P. Mahon, Aberfoyle	30 00	
35	do	P. Mahon, Aberfoyle	20 00	
36	do	Jas. Moon, Woodstock	29 00	
36½	do	Geo. Forbes, Kertch	22 00	
37	One pair Shearling ewes	Jas. Wright, Guelph	44 00	
38	do do	Wm. McAllister, Winnipeg	40 00	
39	do do	A. J. Stover, Norwich	34 00	
40	One pair ewe lambs	Jas. Grey, Ingersoll	32 00	
41	do do	Valentine Feicht, Ariel	38 00	
42	do do	Thos. Waters, Rockwood	30 00	
				1,330 00
	III. LEICESTER SHEEP.			
43	Shearling ram	W. Anderson, Lucknow	15 00	
44	do	J. Watson, Ayr	33 00	
45	do	E. Gaunt, St. Helens	44 00	
46	do	J. M. Robertson, Acton	25 00	
47	do	Watson & Slinmens, Winfield	30 00	
48	Ram lamb	Peter Barnet, Fergus	7 00	
49	do	Geo. McKay, Braemar	15 00	
50	do	John Pratt, Cobourg	20 00	
51	do	John Darroch, Cotswold	6 00	
52	do	W. Quarry, West Montrose	18 00	
54	One pair ewe lambs	A. Elliott, Galt	15 00	
				128 00
	IV. SOUTH DOWN AND OXFORD DOWN SHEEP.			
55	South Down ram lamb	G. S. Burleigh, Mechanicsville	16 00	
56	do	F. W. Stone, Guelph	8 00	
57	do	A. Elliott, Galt	10 00	

RESULT OF PUBLIC SALE, 12TH SEPT., 1878.—*Continued.*

Lot.	Class.	Purchaser.	Amount.	Total.
	IV. SOUTH DOWN AND OXFORD DOWN SHEEP.—*Continued.*		$ c.	$ c.
58	South Down ram lamb	F. W. Stone, Guelph	16 00	
59	do do	J. Wilson, Duffin's Creek	12 00	
60	do do	J. Jackson, Abingdon	6 50	
61	do pair aged ewes	Henry Arkell, Arkell	20 00	
62	do pair Shearling ewes	J. Wilson, Duffin's Creek	42 00	
63	do pair ewe lambs	F. W. Stone, Guelph	14 00	
64	Oxford Down ram lamb	E. Jarvis, Ingersoll	21 00	
				165 50
	V. BERKSHIRE PIGS.			
1	Boar	Peter Mahon, Aberfoyle	20 00	
2	do	John C. Snell, Brampton	30 00	
3	do	Peter Barnett, Fergus	10 00	
4	do	Thos. Chisholm, Galt	40 00	
5	do	W. C. Smith, New Hamburg	19 00	
6, 7, 8	(one lot) Boar	R. Benner, Orillia	10 50	
9	Sows	Wm. McAllister, Winnipeg	14 00	
10	do	Walter West, Guelph	11 00	
11	do	J. C. Eckford, Dunkeld	15 00	
12	do	A. McDougall, St. Mary's	21 00	
13	do	Wm. McAllister, Winnipeg	10 00	
14	do	Wm. McAllister, Winnipeg	12 00	
15	do	A. McPhail, Galt	7 00	
16	do	Geo. Rudd, Guelph	19 50	
17	do	Jas. Cowan, Guelph	16 00	
18	do	Geo. Oliver, Galt	7 00	
19, 20	do	Wm. McAllister, Winnipeg	7 50	
21	do	Wm. McAllister, Winnipeg	8 00	
				277 50
	VI. WINDSOR PIGS.			
22	Boar	P. McDougall, Mimosa	8 00	
23	do	E. J. Brown, Yeddo	7 50	
24	do	Geo. Rudd, Guelph	9 00	
25	Sow	W. R. Paterson, Marden	12 00	
26	do	E. J. Brown, Yeddo	12 50	
				49 00
	VII. POULTRY.			
1	Light Brahma pullets—two	Jas. Anderson, Guelph	3 00	
2	do do —three	J. C. Snell, Brampton	2 00	
3	S. S. Hamburgs—two	J. Wilson, Duffin's Creek	2 00	
4	Rouen Ducklings—three	Jas. Anderson, Guelph	6 00	
5	do do	Robt. Brown, Puslinch	4 25	
6	do do	John Wilson, Duffin's Creek	3 00	
				20 25

SPRING SEED GRAIN.

Lost Nation.

J. J. Weir, Eastman's Corners.
J. McGowan, Alma.
M. Kirby, Guelph.
G. Swanston, Eramosa.
P. Mahon, Aberfoyle.
P. Barnet, Fergus.
D. McCaig, Everton.
H. Black, Rockwood.
H. Arkell, Arkell.
P. McGregor, Eramosa.
James Lindsay, Fergus.
P. Dow, Fergus.
A. Ponton, Belleville.
John Watt, Salem.
J. Stirton, Burgoyne.
H. Cressman, Berlin.

Average $1.20 per bushel.

Russian.

J. J. Weir, Eastman's Corners.
P. Dow, Fergus.
J. Watt, Salem.
J. Lindsay, Fergus.
J. Stirton, Burgoyne.
P. Barnet, Fergus.
G. Rudd, Guelph.
J. McGowan, Alma.
A. Smith, Aberfoyle.
J. Parkinson, Eramosa.
J. Tolton, Walkerton.
A. Ponton, Belleville.
M. Kirby, Guelph.
G. Swanston, Eramosa.
F. W. Stone, Guelph.
R. M. Quickfall, Waterloo.
W. West, Guelph.
H. Cressman, Berlin.
J. Patta, Berlin.
J. C. Snell, Edmonton.
H. Dawson, Guelph.
V. Ficht, Ariel.

Average $1.15 per bushel.

White Fife.

W. West, Guelph.
H. Cressman, Berlin.
R. M. Quickfall, Waterloo.

Average $1 per bushel.

300 bushels at average of $1.08	$ 324 00
Total amount of sale	$2,695 00

We have therefore got an average for the several classes and ages, as follows:

Short Horn bull calves	$ 86 00
Hereford " " (one)	130 00
Cotswold, three shear rams	70 00
" shearling rams	32 00
" ram lambs	21 00

Cotswold, aged ewes	$13 00
" shearling ewes	20 00
" ewe lambs	17 00
Leicester, shearling rams	30 00
" ram lambs	13 00
" ewe lambs	8 00
South Down, ram lambs	11 00
" aged ewes	10 00
" shearling ewes	21 00
" ewe lambs	7 00
Oxford Down, ram lamb, (one)	21 00
Berkshire boars	16 00
" sows	13 00
Windsor boars	8 00
" sows	12 00
Poultry, of kinds	1 26

Having nothing to compare with in Canada or the United States, I am driven to do so with Britain. The annual public sales of rams in England and Scotland during September and October show an average of $30 for Cotswold and $40 for Leicester shearling rams—in the one case, fifteen per cent. below us, and in the other forty-three per cent. above our figures.

As a matter of interest to myself at least, compare also my estimate to you dated 6th July 1878, with the actual figures :

	Estimate.	Sale.
Cattle	$ 300	$ 301
Sheep	1,680	1,723 50
Pigs	325	326 50
Poultry	15	20 25
Grain	390	324
	$ 2,710	$2,695 25
Over estimated		14 75
		$2,710 00

What is now the position of The Ontario Experimental Farm as a breeding station ? Has it fulfilled expectations, have the native and imported stocks been successful, and can anything like profits be anticipated ? This is a highly important question, and as it is my duty to exhibit facts, take some in this shape :

Value of native stock on hand, 1st Nov. 1876		$ 7,121
Cost of imported " " "		8,108
		$15,229
Public sale of 1877	$1,254 00	
" of 1878	2,371 25	
Other sales for two years	2,230 27	
Value of produce retained	3,961 00	
" original stock on hand	8,805 00	
		$18,621 52
Extra value on hand		$ 3392 52

Aside then from the value of the live stock as part of the school appliances, with which they might fairly be credited, it is evident that during the short term of two years, and despite the great deterioration in price of Short Horn stock, ours have maintained their own. How few breeders at the present moment could show a favourable balance sheet. Thus, two years earlier than the most sanguine expectations ever set down, the live stock are a success.

"The distribution of good thoroughbred, and not highly fed animals among average farmers, at prices not over market value," as our standing aim, is therefore being steadily overtaken, and in this connection, I beg you will allow of the following clip from the "Press:"

"The second annual public sale of surplus live stock at the Experimental Farm took place on Thursday in the presence of a very large number of breeders and farmers from most parts of the province, as well as several American gentlemen. An almost incessant rain during the day previous, and that of the sale, did not appear to affect the interest now taken in what is becoming an important annual event of this farm—important especially to the average farmer whose stock stands in need of improvements. The prices realised were considerably over those of last year, a result not only of more competition, but of better material for the money. There was a marked improvement in the quality and condition of all the animals, without, however, any attempt at show or high feeding, and we cordially endorse what was frequently remarked on the ground, that we trust ere long to see, besides males, some females of all breeds distributed throughout the province from the healthy management that now characterizes our Experimental Farm. The present keen demand for Herefords was evident from a three months bull calf bringing $130, where really your ten and fifteen months' Short Horns could only command $60 and $100. Very high figures were given for shearling Cotswold rams, and though admitting that there was no want of individual merit and good blood, we are of opinion that when any ram goes over $50 it is outside what the average farmer can afford for a small flock, at the same time remembering that one of the main objects of the government would be thwarted in the scattering of good stock under market prices. Of course, if regular breeders in Canada, or the United States, will keep up the fever—whether from private or philanthropic motives—it may be advisible that such should be excluded from the competition, but meantime such restriction is properly overlooked. There can be no desire on the part of the Government, or public, to make profits directly from their Experimental Farm, other than the great and best one of improving the system of farming, stock and seeds, of the Dominion by education, and public sales, such as this, along with the experiments now on foot. The handsome sum of $2,700 was realized."

But, let us not be misled in regard to this question of proper distribution; how much of our surplus stuff is being actually retained within the Dominion for the good of the ordinary farmer, how much is getting into the hands of our own speculators, and how much is allowed to run over our borders. Nothing can impress this so forcibly as a diagram:

DIAGRAM SHEWING WHERE OUR SURPLUS LIVE STOCK HAS GONE.

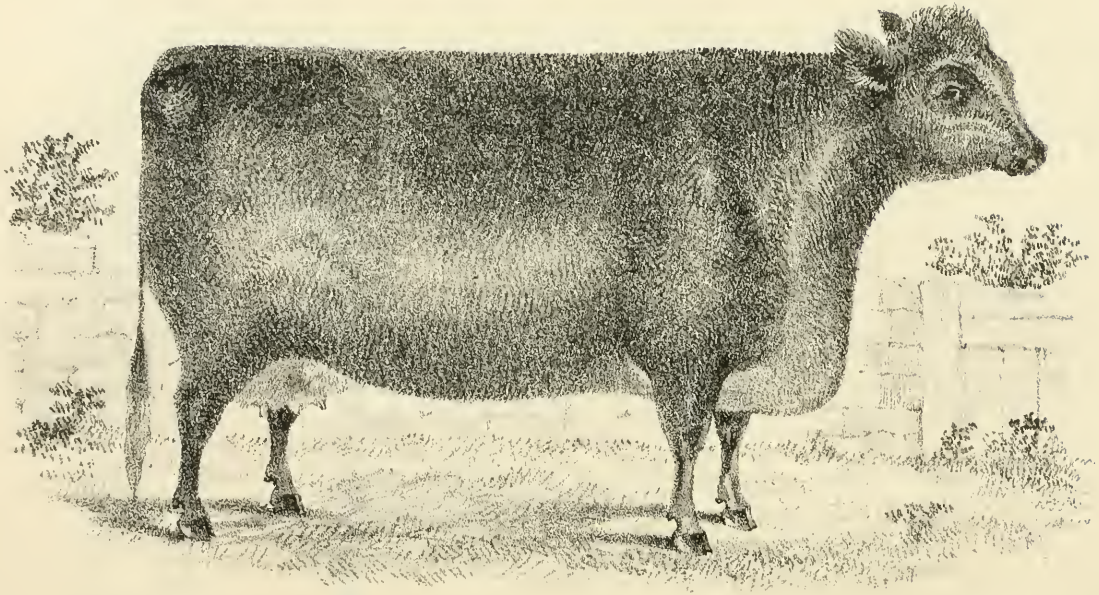
So then, there is yet not much to grumble at, though I am strongly of opinion that the *two middle bars* should have no existence in this chapter of our history.

Our surplus stock is already so far and wide that it is impossible to ascertain what all have done at Exhibitions during the past season. At all the leading ones—Provincial, Hamilton, &c,, &c., first and second prizes have been awarded to those who purchased from us, and produce from other flocks by service from us, has also been very successful.

8.—WOOL.

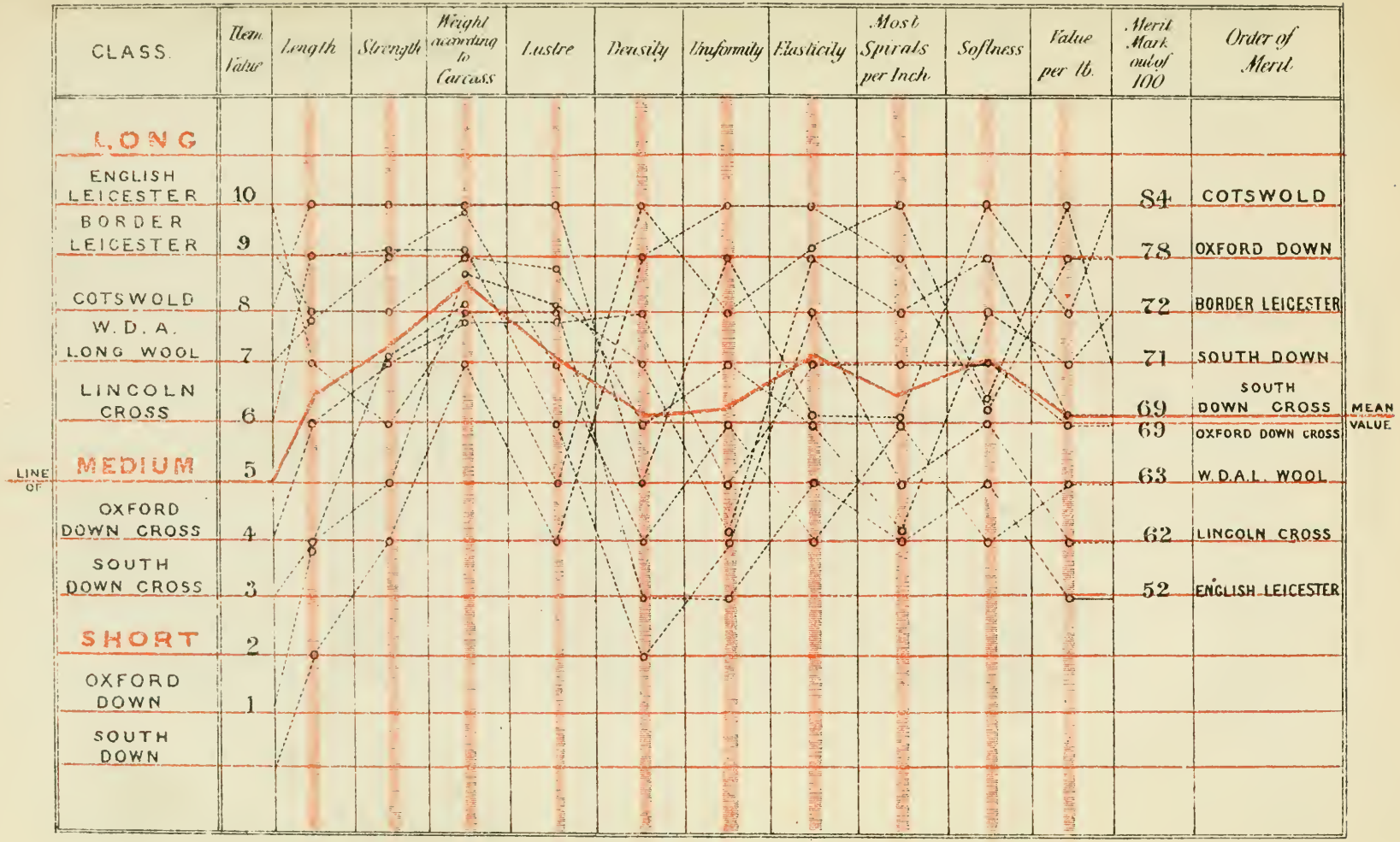
On the 15th April our stock rams were shorn to give early relief; compare weight and crop with those of last year:

	1877.		1878.	
Border Leicester	288	15½ lbs	345	17½ lbs
Cotswold	283	20 "	308	17½ "
English Leicester	213	10 "	270	11½ "
W. D. A. Long Wool	289	19 "	270	15 "
Oxford Down	261	11½ "	255	14 "



LEOCHELL LASS 4TH

DIAGRAM EXHIBITING CLASSIFICATION AND RELATIVE VALUE OF OUR 1878 CLIP OF WOOL.



It will be observed that the two Leicesters have increased in weight of carcase and kept up their wool; that the Cotswold while heavier in flesh has not given corresponding wool; that the W. D. A. Long Wool (Cotswold) has failed both in weight of body and wool, and the Oxford Down has increased nearly 30 per cent in wool, though less in carcase.

All others were clipped during the 1st and 2nd weeks of May,—having to be distributed to afford education to students.

Average weight of fleeces of some kinds:

Long Wooled shearlings	12½ lbs
" " aged ewes	11⅛ "
Shearling South Down	8 "
South Down aged ewes	5½ "

We harvested 1,347 lbs. of long, and 179 of short wool, which on the 25th June sold for

	Unwashed.	Washed value.
Long Wool	12½ cents	22 cents
Oxford Down	17 "	28 "
South Down	22 "	37 "

A shearling Oxford Down cross fleece (Oxford Down ram upon a grade ewe)	weighed	13 lbs
An Oxford Down ewe	"	12 "
A South Down ewe	"	10 "
A South Down cross	"	11½ "
A Lincoln cross	"	17½ "

Classified and judged, our 1878 clips may be thus tabulated: (See annexed diagram).

If then the points I have thus valued are true generally of the kinds of wool specified, as they certainly are in our individual experience, some useful deductions might be drawn for Ontario at least. But with the well known fact that wool is materially modified, for better or for worse, by the physical characteristics of a country—by nature of the soil, drainage, temperature, rainfall, vegetation, as well as by particular modes of management and breeding, it is evident that the table can be referred to only as suggestive, or indicative, and not as a guide in every case.

If the English Leicester is the Short Horn among sheep in England, it has become in our experience, a mere ninth rate producer, though its northern rival takes a good stand among the long wools—being topped only by the Cotswold. It seems to be a fact that, taking ten points of commendation in this question, the Cotswold is not only ahead of all its four compeers, but is also so with reference to the medium and Short Wooled kinds. This superiority is shown in everything except density, elasticity, and spirals. The second position is held by the Oxford Down which, though low in lustre and softness, and of course also in length, is above an average in most other things, being prominent in density, spirals and value. It must not be forgotten, however, that in some respects, Long and Short Wools are incomparable—for example, in manufacturing purposes—yet they can always be so as one crop against another under equal or similar conditions, as I have endeavoured to illustrate; so then by the simple but important points named for the Oxford, and uniformity and elasticity for the South Down, we have figures above the mean of nine varieties. If the original improver of the Oxford Down had in view to create a model sheep by securing the carcase of the Leicester, with the fleece of the Merino, and hardiness of the South Down, success has so far been good, and the breed certainly deserves a fair trial in this country. The two crosses by the Oxford and South Down, are exactly a mean of the whole, being prominent neither in high nor low qualities; and what is called a Lincoln cross goes through a somewhat similar proof, with the exception of a very low place in density. As a representative of what, with the pure Lincoln, is considered the heaviest fleeced breed in England, the West Durham Abbey Long Wool holds its own characteristic as represented in the third column, as well as by strength, but falls off largely in other respects.

IV.—The Garden.

To be able to give an instructive report upon any profession requires a thorough practical acquaintance with it,—I am not a practical gardener nor even a theoretical enthusiastic in this oldest of all arts, though I admire good management and appreciate its educational value here.

Four subdivisions are embraced in this department: Vegetables, Fruit, Flowers, and the Arboricultural.

First class practice has already made its mark in the character of most products; a rigid economy of materials usually recognised by the farmer as useless stuff has made a variety of permanent soils. It is the garden that appropriates the poultry manure and preserves the soot; leached ashes and road scrapings get no unfriendly reception there, nor are fence corners, where sheep do congregate, left undisturbed by spade and rake; and the death of any animal is considered a windfall. Compost heaps in variety of materials, and age, are always on hand; while all over there exists a greed for fat things that of itself is an admirable lesson for young men.

Having last year given a full account of our principal garden products, some further idea of their position educationally, and their intimate relation to its larger sister profession, will best form the subject now.

In vegetables and fruit we want quantity and quality of everything, but everything in this sense may include something it is undesirable to have in *quantity*. Is it desirable, in every case, or in what cases only, to have a maximum quantity of

Foliage,
Blossom,
Fruit,
Seed,
Stem,
Root,
Tuber?

Or, rather is it possible to have these in the same plant? One of the nicest duties of this department, therefore, is to exhibit in practice that, if a maximum of foliage is wanted, the growth of the particular plant must be carried on to such an end, as against early flowering and fruit or seed time; and another is to shew that, if fruit or seed is wanted, non-expansion of the plant in certain directions is indispensible.

A succession of crops of the one kind in the same season is another valuable branch, and applies also to blossoming in ornamentation of grounds. The germinating of doubtful and unknown seeds under certain conditions of temperature and soil is looked upon as at the foundation of all success, and comes forcibly to the farmer in partly accounting for poor brairding.

Thinning, cutting, propagating, and even pruning, are related to corresponding operations in the field, and, of course, the garden sets an example of model work in these and many other respects.

Checking, training, grafting, shading, mulching and forcing make another list of important horticultural operations that require no special explanation.

Slashing, laying, bedding, potting and fumigating take their proper place in education and the requirements of the place.

The heavier work of clipping (hedges), transplanting, clumping (trees, shrubs, flowers) and hedging is always interesting and very valuable.

In ornamentation otherwise there has been much grading, gravelling, terracing, levelling sodding, edging and bordering.

And with these must be named, rustic work, pitting, mowing, furnace attendance, ventilating houses, labelling and storing.

Indeed, there is no better field for the initiation of young men who have agriculture in view as a profession than that of horticulture, A thorough drill under the gardener means care, economy, knowledge of plant life, soils, manures, regularity, weather, tidiness, minuteness of observation, insect life, and many others of value. With such an apprenticeship few would drift into careless farming.

And again, any one who recalls to memory the condition of garden and pleasure-grounds here four years ago must admit to a change seldom witnessed on such a large scale in a new country, and while acknowledging that old orchards and houses have yet to be cleared off, for better effect, the twenty-five acres of closely sodded lawn, with its clumps of trees and shrubs, flower-beds and bordering, hedging of cedar, thorn, fruit and balsam trees, already bespeak a clothing and effect that four years more will thoroughly establish.

I regret that my own introduction to farming proper has hitherto prevented such a report upon this department as its importance undoubtedly demands, and trust that another year may overtake the apparent neglect.

V.—The Mechanical.

While this department is not an educational one according to our constitution, it has become one in no ordinary sense. Whether it is that being a school in all our connections, and having many extraordinary things to provide for other departments, and the 150 souls connected therewith—or whether the fact of so many wants being on hand is by reason of the very existence of the shop being there to do them, it is not easy to say; but such is now the variety and amount of labour in demand here that were one's ideas of the requirements of an ordinary farm to be made through our experience in this branch, few would dare to invest in landed estate. But we are outside of all ordinary rule in mechanics, as we are in farming itself, and accordingly were it possible to estimate the difference in cost between our present mode of doing repairs, &c., &c., and what it would be by service from town, I have no doubt the balance would be largely in favour of the former.

Yet, we are also educating, and the student's interest is as keen here as anywhere else—second only, it may be, to the live stock department.

During the year the shop has to be credited for materials and work with :—

$169 70	against	College.
232 55	"	other buildings.
139 10	"	Garden.
137 54	"	Live Stock.
1,062 20	"	Fields.
254 35	"	itself.
$1,995 44		

I have referred to variety—the following is a sample—taken irregularly from the Mechanical Journal .—

Repairing window-blinds, garden fence, ash-house, stable floor; making whiffletrees, window-screens, water-closet, troughs, portable fence, waggon tongue; painting waggon-boxes, grinding tools, making plough-handles, wire-fencing, repairing rakes, hanging gates, new sheep-washing and dipping machine; duck-pond; school room black-boards, tables, ventilators, mower, roller, pig-troughs, feed-boxes, hurdles, hand-cart, scythe cradle, straining posts, culverts, horse-powers, cattle-shed doors; green-house glazing and repairs, cellar and field-pit ventilators, desks repaired, coal slide, making new wooden harrows, hen-coops, boxes for public sale; sawing-power, wash-room, locks, saw-sharpening, ladder-making, sheep-racks, clothes-rack, coal-shed, piggeries, fork-handles, block-cedar floor, sheep-lambing pens, wheel-barrows, grind-stone frame; bob-sleigh, book-case, and erecting scaffolding, &c., &c.; all, or nearly all, by the students.

To know what a tool is made for, how to use it, keep it in order, and put it to good use, is initiatory work. To plan for sizes of timbers, draw lines and angles is another stage; to overhaul, repair, clean, and alter implements and machinery, make a third step, and to be sent to one or all of these, *without superintendence*, is as much as can or need be undertaken by a first-class farmer.

Did space allow, or were it advisable in the matter of cost, these are several things worth illustration and investigation for the farmer. We are gradually finding our way into improved forms of gates, sheep-racks, portable sheep-dipping machine, portable fences, hurdles, and wire fences.

VI—The Experimental.

We are still prosecuting our A B C work in this department. Things in animal and vegetable life that are most common, are most apt to be overlooked and undervalued because of their apparent insignificance. Were all the ordinary and little things in the present practice of our profession better understood and cared for, there would be larger profits and less reaching after what should only be aimed at by those whose farms are in a condition fit for experimenting.

To prove the soundness, or otherwise, of general farm practice has therefore been, in some forms, the work of the past year. In judging results, you will, of course, keep in remembrance the nature of the season as given in a previous chapter, the previous treatment of the soil, and any circumstances, to plants or animals, outside the proper line of enquiry.

It may not be my place to say much regarding progress, growing importance, and better conducted and more valuable field experiments during 1878. It will be observed that while not overlooking cereals, grasses proper, and green fodders, great prominence has been allowed to roots under a variety of conditions, in which bearing I am justified by the change now pending over our profession in the production of beef.

First, I beg to submit table showing the treatment, by rotation, of all the field plots during the last three years, and, of course, the object of each experiment will be ascertained in this and former reports:—

ROTATION.

Treatment of Experimental Field Plots during three years.

Plot	1876.	1877.	1878.
1	Wheat without manure	Turnips, with superphosphate ...	Wheat, superphosphate.
2	Do do do	Turnips, bone dust.....	Wheat, F. Y. manure.
3	Do do do	Turnips, nitrate of soda	do do
4	Barley do do	Potatoes, F. Y. manure.....	do do
5	Wheat do do	Mangolds, ½ Farm-yard liquid...	do do
6	Peas do do	Wheat, ½ nitrate of soda	Mangolds do
7	Wheat, A.—deep ploughing, no manure	Turnips, A.—With and without lime.....	Wheat, A.—F. Y. manure.
	Do B.—Turnips, F. Y. manure	Barley, B.—Without manure ..	Potatoes, B.—1. Detroit P. G. 2. Superphosphate.
8	Turnips, A.—F. Y. manure.....	Carrots, A.—F. Y. manure and lime.....	Wheat, F. Y. manure.
	Do B.— do and lime ...	do B.—Without manure...	
9	Wheat, A.—subsoiling, no manure	Mangolds, F. Y. manure in Fall.	Barley, do
	Do B.— do F. Y. manure	do do do in Spring	
10	Carrots, F. Y. manure and superphosphate	Wheat, without manure.....	Mangolds, do
	Mangolds do do do..	do do	Salt and bone dust.
11	Carrots, F. Y. manure and superphosphate, both subsoiled	do do	Mangolds, F. Y. manure.
	Mangolds do do do..	do do	Salt and bone dust.
12	Carrots, F. Y. manure and superphosphate, both deep ploughed.	do do	Turnips, F. Y. manure.
	Mangolds do do do..	do do	
13	Grasses, A.—Nitrate of Soda....	Grasses, nitrate of soda	Peas, no manure.
	B.—Sewage		
	C.—F. Y. liquid.....		
	D.—Gypsum		
	E.—No manure		
14	Grasses, A.—Bone dust	Grasses, gypsum....	Peas, no manure.
	B.—Marl		
	C.—Soot.....		
	D.—Lime.....		
15	Indian Corn, A.—Superphospate.	Barley, A.—Nitrate of Soda	Potatoes, A.—F. Y. manure.
	B.—F. Y. manure .	Millet, B.—Superphosphate.....	Beans B.— do
16	Indian Corn, A.—No manure....	Wheat, A.—F. Y. manure	Turnips, F. Y. manure.
	Beans B.— do	Barley, B.— do	
17	Oats, no manure	Wheat, F. Y. manure	Carrots, do
18	Lucerne, A.—F. Y. manure.....	Lucerne, F. Y. liquid	Lucerne, F. Y. liquid.
	B.—No manure.....	Nitrate of soda and gypsum ..	
19	Clover, A.—Bone dust	Clover, no manure	Corn, no manure.
	B.—Marl		
	C.—Lime		
	D.—F. Y. liquid		
20	Buckwheat, A.—No manure	Mangolds and Sugar Beet :	
	Mustard B.— do	A.—Gypsum	Wheat, F. Y. manure.
		B.—Bone dust.....	
		C.—Superphosphate ..	
21	Potatoes, F. Y. manure..... ..	Wheat, Oats and Barley, no manure	do do
22	Potatoes, do	Wheat, A.—Superphosphate	do do
		B.—Urine.....	
		C.—F. Y. liquid.....	
23	Potatoes, do	Oats, no manure	do do
24	Potatoes, do	Oats, A.—Gypsum.....	do do
		B.—Leached ashes	
25	Wheat, A.—No manure.....	Indian Corn, A.—Superphosphate	Oats, no manure.
	B.—Nitrate of Soda	B.—Gypsum.....	
		C.—Nitrate of Soda	
26	Peas, no manure	Wheat, F. Y. Manure	Kale, Rape and Kohl Rabi, Nitrate of Soda.
27	Do do	Oats and Barley, A.—Bone dust.	Wheat, F. Y. manure.
		B.—Salt	
28	Summer fallow	Wheat, no manure.....	Turnips, F. Y. manure, salt and bone dust.

ROTATION.

Treatment of Experimental Field Plots during three years.—(*Continued.*)

Plot	1876.	1877.	1878.
29	Summer fallow	Summer fallow	Oats and Barley, superphosphate, nitrate of soda, gypsum, bone dust.
30	Oats, A.—No manure..... Wheat, B.— do ..... Mangolds, C.—F. Y. manure ... Turnips, D.—Superphosphate .	Turnips, A.—F. Y. manure ..... B.—Gypsum ..... C.—Nitrate of Soda ...	Sugar Cane, F. Y. manure.
31	Oats, Wheat, Clover and Grass, no manure.....	Peas, A.—Lime ..... B.—Gypsum	Wheat, F. Y. manure.
32	Similar to Plot 30.....	Similar to Plot 30	Centennial wheat.
33	Potatoes, A.—No manure ..... Oats B.— do	Wheat, F. Y. manure ..... do do	Grasses and Clovers mixed, bone dust, gypsum, nitrate of soda, lime and salt.
34	Potatoes, A.— do ..... Oats B.— do	do do ..... do do	Grasses and Clovers separate. Same manure as 33.
35	Sugar Beet, A.—No manure..... B.—F. Y. liquid.... C.—Superphosphate.	Wheat, bone dust	Potatoes, F. Y. manure.
36	Turnips, F. Y. manure.....	Wheat, no manure	Mangolds, Turnips and Carrots, F. Y. dung, superphosphate, nitrate of soda and bone dust.
37	Turnips, bone dust.....	Wheat, cultivated	Oats, F. Y. manure.
38	Turnips, no manure.....	Wheat, A.—Gypsum ..... B.—Bone dust.....	Wheat, superphosphate.
39	Tares, A.—No manure..... Tares and Oats, B.—No manure.	Potatoes, F. Y. manure	Lucerne, bone dust.
40	Grasses and Clovers, F. Y. manure	Grasses and Clovers	Grasses and Clovers.

From 1878 column I select the following subjects as those deserving of discussion at present, by reason both of their greater practical value and the more complete character of the experiments—it being understood that others related to these will have to be handled, as our plans develop themselves in time :—

1. Some varieties of fall wheat as regards produce and liability to disease.
2. Oats and barley with different manures.
3. Spring wheat against each other.
4. Spring wheat under fall and spring manuring.
5. Barley under fall and spring manuring.
6. Our sugar crops.
7. Flax.
8. Grasses and clovers.
9. Lucerne.
10. Thousand headed kale and rape.
11. Peas against peas.
12. Swede turnips in opposition.
13. Turnips under fall and spring manuring.
14. Turnips under various conditions.
15. Mangolds in opposition, and result of transplanting.
16. Mangolds under four conditions.
17. Mangolds, turnips and carrots under different manures.
18. Sewage on roots.
19. Carrots under various conditions.
20. Potatoes in competition.
21. Potatoes by different sized sets.
22. Potatoes under different manures.

1—Some Varieties of Fall Wheat as Regards Produce and Liability to Disease.

In connection with the cultivation of five kinds of fall wheat in this experiment, the plots during the first week of September 1877 received an application of 25 loads per acre of well mixed farm yard manure—a load being one ton, or 2,000 lbs. Seeding by drill, at rate of 105 lbs, per acre, was overtaken on 11th September, and, during winter, plants looked fresh and safe, brairding having been regular and strong. Rolling was done on 8th April ; some parts were considerably lodged by heavy rains on 3d May, as well as on 3d July. Heading was prominent on 13th June, and a week later the work of the young of the Hessian fly became manifest to the casual observer by bent and falling plants throughout. Rust was at its greatest development the last week of June. Harvesting 20th July.

The accompanying table will lessen description and exhibit the relative results more clearly. Refer to the rotation lists already given, and note that by ordinary knowledge, we place the conditions of previous cropping and management in the following order, from the most to the least favourable :—

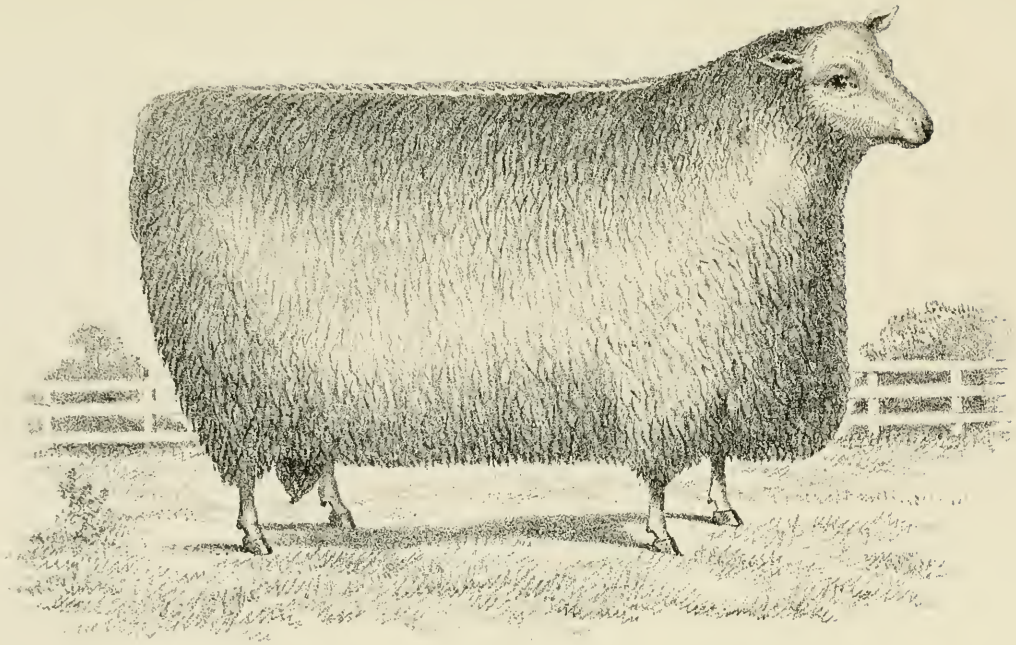
Soule.
Clawson.
Silver Chaff.
Gold medal. }
Arnold's Victor. } equal.

These must be weighed in drawing conclusions, at least, as regards produce—for the subject of diseases being, or not being, affected by manures and management, can receive but indirect reference as yet. With regard to rust one very marked fact was that the north sides of the plots were coated fully one-third more than the south ones. The very inferior position of the Silver Chaff, not being attributable to poverty of soil nor any conditions known to us, must be referred to individual character. Arnold's Victor, as originated by Mr. Arnold, of Paris, Ontario, is, I believe, a hybrid between the Gold Medal and Diehl, and the Gold Medal is also a hybrid by the Soule and Michigan Amber.

Some varieties of FALL WHEAT, as regards produce and liability to disease.

QUANTITIES PER ACRE.

KIND.	Plot.	Straw. lbs.	Grain. lbs.	Grain. Bushels.	Weight per Bushel	Rust.	Hessian Fly.	REMARKS.
Soule	31	6,000	1,935	33	61¼	Least affected	Least attacked	Best standing straw.
Clawson	22	7,000	1,980	33	57	Worst affected	Third	Worst lodged.
Arnold's Victor	23	5,010	1,665	27¾	57¼	Third position	Fifth	Fair standing straw.
Gold Medal	21	5,750	1,970	33	58	Second best	Fourth	do do
Silver Chaff	27	2,750	700	11⅔	55½	Third (with Arnold's Victor)	Second best	Altogether poor.
Means	.....	5,302	1,650	27½	57 4–5			



Border Leicester Ram

2.—Oats and Barley with Different Manures.

One of the most reliable experiments with manure on cereals, so far as regards influence by any previous manuring, is under this head, as on reference to plot 29 you will find a preparation by two years' *bare summer fallow.*

The land was ploughed on 6th of May, thrice harrowed, and on the 13th of May the following manures applied, broadcast, by hand, previous to sowing by drill machine same date:

Brockville Superphosphate (mineral)	600 lbs. per acre.
Nitrate of Soda	300 " "
Gypsum (plaster)	600 " "
Bone Dust	600 " "

Rate of Seeding:—Oats, $2\frac{1}{2}$ bushels per acre.
Barley, $1\frac{1}{2}$ " "

Full braird on 26th of May, and harvesting on 9th of August.

An examination of the result is very interesting. Under all the manures, we have oats leading with 740 lbs. straw per acre over that of barley, and no less than $21\frac{1}{8}$ against $10\frac{3}{4}$ bushels of grain. With oats (Black Tartariam), superphosphate gives straw somewhat under its own average—2,700 as to 2,970 lbs.—while the grain is largely over the mean, being the highest of anything in this experiment. Nitrate of soda, as might be expected, shews bulk of oat straw 32 per cent. more than the average, and as much as 61 per cent. over that by gypsum, the grain being slightly over the mean; gypsum gives an average of grain with a minimum quantity of straw; and bone dust, while nearly up to the average of straw, is largely deficient in grain—as low as 50 per cent.

With barley (6 rowed variety), superphosphate is also deficient in straw, but gives more grain than any of the other manures; nitrate of soda, as with oats, is high in straw and over the mean for grain; gypsum is also minimum in straw and not up to the average of grain, while bone dust follows very closely to its own oat straw quantity, and gives the smallest grain of all the eight examples.

OATS AND BARLEY WITH DIFFERENT MANURES.

Per Acre.	Superphosphate.		Nitrate of Soda.		Gypsum.		Bone Dust.	
	Straw.	Grain.	Straw.	Grain.	Straw.	Grain.	Straw.	Straw.
	Lbs.	Bushels.						
Oats	2,700	$28\frac{1}{8}$	3,960	$22\frac{1}{2}$	2,400	$22\frac{1}{2}$	2,820	$11\frac{1}{4}$
Barley	2,580	$12\frac{1}{2}$	3,240	$11\frac{1}{4}$	2,340	10	2,760	$9\frac{1}{2}$
Means	2,640	$20\frac{1}{3}$	3,600	16 7-16	2,370	$16\frac{1}{4}$	2,790	$10\frac{3}{8}$

Altogether then, superphosphate is 26 per cent. highest in grain, and 14 per cent. under in straw; nitrate of soda is 20 per cent. greater in straw produce, and but a little over the general mean for grain; gypsum is minus 11 per cent in straw, and gives about the same grain as nitrate of soda, and bone dust is nearly up to the mean of straw, but falls off by 41 per cent. in the production of grain.

With oats and barley, therefore, during the *first season*, the *value* of manure takes this practical shape:—

Manure.	Straw Value. Per Acre.	Grain Value. Per Acre.	Total Value, Per Acre.
	$ cts.	$ cts.	$ cts.
Superphosphate	9 10	11 75	20 85
Nitrate of Soda	11 25	11 25	22 50
Gypsum	10 25	11 25	21 50
Bone Dust	11 25	5 60	16 85

Of course, the unusual season, in deficiency of grain, must be had in record in the further cropping of this plot, and two years, at least, should be carried out on order to test the permanency of the different manures.

3.—Spring Wheats Against each other.

This was simply the cultivation of fourteen varieties of wheat under exactly the same conditions in order to test quantities of grain and straw :

KIND.	Straw per acre in lbs.	Grain per acre in lbs.	Grain in bush. per ac.	Weight per bushel.
Club	3,200	420	7	57
McCarling	2,040	760	$12\frac{2}{3}$	60
Golden Drop	3,600	490	$8\frac{1}{6}$	58
White Fife	2,160	720	12	60
Champion	2,380	500	$8\frac{1}{3}$	60
Defiance	1,940	220	$3\frac{2}{3}$	
Gordon	2,300	500	$8\frac{1}{3}$	
Rio Grande	2,820	940	$15\frac{2}{3}$	60
Arnautka	2,880	800	$13\frac{1}{3}$	61
Lost Nation	3,000	1,040	$17\frac{1}{3}$	58
Russian	3,400	1,000	$16\frac{2}{3}$	$58\frac{1}{2}$
Egyptian	2,040	480	8	56
Russian Baltic	2,440	760	$12\frac{2}{3}$	58
Rice or Goose	1,680	440	$7\frac{1}{3}$	61
Mean	2,423	697	$11\frac{1}{3}$	59

Seeding seven pecks per acre, with exception of the Champion and Defiance, which were only five pecks. McCarling and White Fife were slightly affected with smut. The rice variety was very poor in germination—about one half. For character of plants see "Comparison of wheats." In judging produce you will have in remembrance the fact of the year's low figure throughout the country.

4.—Spring Wheat under Fall and Spring Manuring.

On 25th Oct., 39,700 lbs. of farm yard dung per acre, was ploughed under in half of plot 4, and the like quantity on 15th April following ; Russian Wheat was drilled over all at rate of seven pecks per acre ; brairding 7th May, in head 5th July, and harvested, 9th August.

Result :

Fall manuring.—4,580 lbs. of straw and $19\frac{2}{3}$ bushels of grain per acre.

Spring manuring.—4,120 lbs. of straw and $15\frac{2}{3}$ bushels of grain per acre.

Or one-tenth more straw and one-fourth more grain by fall manuring. On one of our 20 acre fields this implies a difference of $115.

5.—Barley under Fall and Spring Manuring.

This is corroboration of what has been proved at other experimental stations, that with plants requiring little nourishment in a short time—comparatively to others—fall or spring

manuring and cultivation is immaterial. Of course, this does not lessen the value of these operations for succeeding crops, and were grasses seeded down with the barley, the advantages of a deeper and more mellow soi by fall work are evident.

KIND.	STRAW PER ACRE. lbs.		GRAIN PER ACRE. (Bushels.)	
	Fall Manure.	Sp'ng Manure.	Fall Manure.	Sp'ng Manure.
Rennie's Two Rowed	2,360	2,480	10.42	11.66
Probestier	2,600	2,160	10.42	8.33
Mean	2,480	2,320	10.42	10.00

6.—Our Sugar Crops.

While it is perhaps not to be desired that the agriculture of Ontario should become eminent in much that is not directly related to the production of the essentials of human life, there can be no objections to showing what may be done in directions that have received considerable attention of late in another province and the United States.

First, with reference to

Sugar Beet.

The large white variety was cultivated by us this year in field A in association with long red mangolds by experiment with and without College sewage; soil a good loam, having a north-eastern exposure and liable to washings by rain. Work began by ploughing under during second week of May, 15 loads of well rotted farm-yard dung per acre, sown on 18th May; germination was very irregular, and when plants were finally arranged there was a want of fully one-fourth of a full crop Further management was similar to that of turnips.

The remarkable season that rotted turnips so badly did not affect this crop—all bulbs being sound and hard, though it is very evident that less rain even here would have given a better result. But that result, in my opinion, is one deserving attention. A thousand bushels an acre is a heavy crop of roots in any country, and when I have to record as much as an *average* of 1,670 bushels of Sugar Beet, or actually 100,200 lbs of clean harvested bulbs as a full crop, there is cause for reflection. (See "Sewage on Mangolds and Sugar Beet.")

In his recent pamphlet on "Beet Sugar," E. A. Barnard, Esq., Director of Agriculture at Quebec, records the average produce of France to be 30 tons per acre, of Germany 20 tons, and a hint at 20 tons also for the Quebec Province, apparently of various sorts in all these countries. Our lowest is 46, and highest 50 tons per acre from land of average richness, and a season of many weeds, much rain, and extreme heat. In all this you will understand we are subject to analysis for check on Sugar value, and I shall keep two tons in store for reference and examination.

Sugar Cane.

In compliance with your request I planted two acres of the Minnesota Early Amber variety of Sorgo or Sugar Cane, in field A, in order to test the capabilities of our climate and soil for its maturing and profitable production. According to American experience, both our soil and situation in this field were against the plant—as being too wet in the bottom and having the colder exposure of the north and east to contend with; the peculiar season must also be kept in remembrance, as well as the fact of our 888 feet above Lake Ontario.

Preparation with plough, cultivator and harrows, was made during last week of May; 15 loads per acre of farm-yard dung thoroughly intermixed, and after rolling, planting in hills four feet apart each way, was done under favourable conditions on the 5th June. Few plants made their appearance before 15th June, when weeds—principally Fox-tail ("June

grass") came so thick and fast that cleaning had to be undertaken at the risk of the crop wanted. But, despite the great resemblance of the young Sugar Cane to grass named, student acuteness—especially in tasting—(the cane being bitter)—waded its way through difficulties very satisfactorily. Thinning was done so as to leave five plants per hillock, and repeated horse-hoeing took place up to August. Growth was slow for the first two feet, but with the increasing temperature in July and August an average of eight was reached; the tassel or seed, came as late as 29th August.

Not having had previous experience of this crop, it is not safe to say much with any certainty in regard to maturity; plants seemed well developed however, some of the seed took the same form and colour as that received from you—probably about one fourth only, and when harvested on 24th September and allowed to remain in the field for six weeks we had 8,800 lbs of cane per acre, and by a simple process of screw pressure, which may have extracted one-fourth—17 gallons of sap per acre was collected.

It appears therefore that under the foregoing conditions, this variety of Sugar Cane matures to a certain extent in a mean temperature of 70°, but as part of that was as high as 99° in the shade, further trial is needed to corroborate.

7.—Flax.

One-fourth of an acre of field A, formerly under centennial seeds, was, after the usual ploughing and cultivation, sown broad-cast at the rate of 26 lbs. of Flax-seed per acre, on 8th May. Blooming was full during first week of July, and disappeared within ten days. The crop stood well, regular, and fairly clean of weeds. Began pulling one-half on the 12th August, and cut other half with scythe (and cradle) on 15th. Average length of plants, 29 inches; produce 1,792 lbs. of fibre, and 1,240 lbs. of seed per acre.

Value realized:—

Fibre	$12 50
Seed	31 00
Total value per acre	$43 50

8.—Grasses and Clovers.

One of the most interesting and instructive divisions of our experimental plots during the past season, has been the growth of some *twenty-three* varieties of grasses and clovers—all in separate adjoining sub-plots for comparison, and all mixed in another, for trial as permanent pasture. The accompanying list will save much explanation, and necessarily, the first summer's experience with the majority, without a winter's trial, leaves more for next year.

I place a large value on the successful establishment of more grasses than Timothy for the Province, and should perseverance reward our individual altitude, many others should benefit. It is plain that without a variety of grasses in our pastures, we cannot expect to cope, in certain and richer feeding, with moister climates, and those of less extremes than ours. I do not even form a doubt in this matter: For three years past we have, in unfavourable conditions of soil and climate, exhibited a gradually thickening bed of "Sweet Vernal," *Anthoxanthum Oderatum*, without which all British hay would be unsavoury, and though of a rougher type, but equally nutritive, and needing only to be close-cropped, the Orchard and several of the Brome are safe with us. Most of the clovers have been a prominent success.

Grasses and Clovers of first year's growth.

KIND.	CONDITION.
Sweet Vernal	Irregular, but stooling and seeding rapidly; matured.
Bent	Good all over, did not mature.
Red Top	" " "
Rye, perennial	" and strong, partly matured.
Rye, Italian	" " "
Medow Fescue	" did not mature.

Kentucky Blue .....Slow ; plot half covered on 1st Sep., and now good all over ; did not mature.
Brome .....Strong, regular, and maturing.
Timothy .....Good of course, did not mature.
Yellow Oat .....Poor, only one third of plot covered ; not matured.
Orchard .....Good ; not matured.
Fan Oat .....Fair ; partly matured.
Crested Dog's Tail .....Plot two-thirds covered ; did not mature.
Trefolium Incarnatum .....Excellent, close, strong, regular and prolific.
Espercette .....Regular ; sown in September.
Lucerne .....Excellent.
White Clover ..... "
Alsike " ..... "
Bokhara .....Good ; matured.
Rib Grass ..... " "
Red Clover .....Of second year ; roots 37 inches deep.
Sanfoin .....Cut 11¾ tons per acre on 7th June ; roots 35 in down.
Hungarian Grass .....Has nearly all disappeared.

9.—Lucerne.

I have now to record the highly successful cultivation of Lucerne (*Medicago Sativa*). During the past two years not one plant has failed by frost or drought, and the produce per acre has more than doubled itself during the second year—from 6½ to 13½ tons, green weight. This is not yet so much as I have cut in the Lothians of Scotland by similar

Lucerne for Soiling.

	First cut May 20th.	Second June 18th.	Third July 12th.	Fourth Augt. 7th.	Fifth Sept. 20th.	Total quantity. Tons.
Tons per acre.....	3⅓	3 1-5	3¾	1¾	1¾	13½
					Dry weight.....	4

management, but as the plant is good for eight or ten years, under liberal treatment, I hope to be able to make a higher record in the future. Four tons of green give one ton of hay. The crop is best for soiling purposes ; should be cut often (see table herewith) as toughness soon sets in. The sixth growth of this year was left to die down, though apparently as good as any of the others. In order to test broadcast against drilling, I have put one-fourth of an acre each in field A adjoining College sewage, with which it has been regularly top-dressed by use of water cart, and gravitation on part. There is a risk of rankness in this example next year, but let me assure the farmer that whether broadcast or drill, there must be no idea of letting alone—in order to be able to give, it must receive.

10—Thousand-Headed-Kale and Rape.

Cabbage, Kohl-Rabi, and Rape, may be classed together in our previous foliage crops of the farm ; this year we have to introduce another of considerable importance—the "Thousand headed Kale" or cabbage, of recent cultivation in England. Seed received direct from Carter, of London, part being sown similar to turnips and part in bed as in preparing common cabbage for transplanting.

Kale and Rape.

	lbs. per acre.	tons per acre.
Thousand Headed Kale.....	48,000	24
Rape	33,600	16⅘

In the case of seeding, we had no success—few plants appearing; in the other, good six-inch ones were taken from the garden bed, and planted in rows two feet apart, and the same distance between plants, in the row, under very favourable circumstances on 19th June, in field 14, among the turnips, and in plot 26 experimental. Hoeing was well attended to, there was no insect attack, and most of the crop came away vigorously. We cut and weighed on the 3d October. As a means of comparison under like conditions, Rape (*Brassica napus*), in rows of similar width, was sown on 8th July and cut on 10th October,—result as in annexed table. Earlier sown rape on new land in field 15 gave over 20 tons per acre. This kale, or tree cabbage, is but magnified rape, having a stronger stalk, and nearly one hundred branches growing from it taking the form of a tidily kept shrub three feet in height, and such a corresponding breadth that over two feet rows became one mass of leaves, which can be cut at any time when more than one crop is wanted in the season.

Twenty-four tons an acre is worth looking after, should further trial prove favourable, as probably the moist season has had something ado with the present success. All our animals have eaten the kale greedily,—to tied up bulls, housed sheep, cows in the field, and pigs.

11—Peas Against Peas.

Plots 13 and 14 were under Rye grasses in 1877, and being much of a failure, were cropped with peas of this experiment, which were sown by drill machine on 14th May at rate of 2½ bushels per acre, except the marrow-fat, which by size required 4 bushels. Flowering was profuse on 9th July, and harvesting overtaken on 14th August,—the Champion, and Carter being one week earlier than the others.

Per Acre.	Carter's First Crop.	Champion of England.	Strawberry Vine.	Marrow-fat.
Bushels of Grain....	15⅓	15⅓	21⅓	22⅓
Lbs of Straw	2,100	2,600	3,340	2,260

None were free of the Weevil, but Carter very much worse than others.

Note, per table, the even grain produce of Carter and Champion, with 40 per cent. of straw in favour of the latter. The Strawberry Vine follows with 9 per cent. over the average in grain, and no less than 44 per cent. ahead in straw. Marrow fat has only an average of straw but takes the lead in grain to a small extent.

The whole is not equal to our ordinary field management on an average of seasons; yet as a matter of comparison under similar conditions, the result is so far valuable.

12—Swede Turnips in Opposition.

In this examination you will not overlook the remarkably unfavorable season for roots by excessive rain and extreme heat, inducing a rush of leaves to the detriment of bulbs, and causing disease, as already explained in field cropping.

The immense number of blanks first draws attention—no fewer than 6990 out of 15,600 as a mean over all the varieties. It is only when crops are carefully managed and counted, or weighed, that such deficiencies, or excesses, are startlingly impressed, as in this case. Why, the blanks here are, or would be, equal to 300 bushels per acre—of itself a fair crop on heavy land in some seasons.

Again, look at the unaccountable behaviour of some of the kinds: the Bloomdale gives us 11,700 per acre, while Dale's Hybrid can only show 910 plants, under precisely similar conditions; such extremes must speak of individual merit, or state of the seed. The size of bulb is an important item of produce, if accompanied by nutritive value, as to which see another chapter in this report. The medium weight of nearly 2¾ lbs. is under that of last season by 55 per cent.

VARIETIES OF SWEDE TURNIPS AGAINST EACH OTHER.

KINDS.	Actual number of roots grown per acre.	Number of blanks per acre.	Average weight of each root in lbs.	Weight of roots actually grown, in lbs.	Actual produce per acre—bushels.	Full crop—bushels per
Dale's Hybrid	910	14,690	1·43	1,320	22	372
Sutton's	10,400	5,200	2·00	14,820	247	520
Shepherd's Golden Globe	9,230	6,370	2·40	18,540	309	624
Skirving's	9,490	6,110	2·46	23,400	390	640
Bloomdale	11,700	3,900	2·55	29,880	498	663
Sharp's Improved	8,320	7,280	2·66	22,080	368	692
East Lothian	9,360	6,240	2·67	24,960	416	694
Carter's Imperial Hardy	6,630	8,970	2·70	17,820	297	702
Hall's Westburgh	7,800	7,800	2·70	21,060	351	702
Bangholm	10,010	5,590	2·86	28,620	477	744
Marshall's	8,580	7,020	3·03	25,980	433	788
White (Swede)	9,100	6,500	3·07	27,960	466	798
Bronze topped	10,400	5,200	3·90	40,560	676	1,014
Means	8,610	6,990	2·65	22,844	380	688

13—TURNIPS UNDER FALL AND SPRING MANURE.

There is probably no rule without an exception, but there should be a cause for every exception. We know, from practical experience, the value of ploughing in the fall, and the fact is a growing one that farm-yard dung, applied then, is also best in many cases. The condition of the manure, whether green, or more active, the nature and condition of the soil, and its adaptation with and without the manure in question, to certain plants have all

TURNIPS UNDER FALL AND SPRING MANURING.

	Fall Manuring.		*Spring Manuring.*	
	LBS.	BUSHELS.	LBS.	BUSHELS.
Per acre	19,400	323⅓	19,260	321

a particular bearing, along with climatic peculiarities and special management, upon the rule and the exception.

Half of Plot 28, on 3d Nov. 1877, received an application of 42,800 lbs. per acre of mixed farm-yard dung in medium condition of rottenness, which was then ploughed under. The same application was given to the other half on 11th June 1878, (memo: liability to difference in manure) with an addition, to both divisions, of 400 lbs. salt and 400 lbs Bone Dust per acre. Observe the former cropping and management of this plot as very favourable for the present experiment. Carter's Imperial Hardy Swede was sown on 20th June, and managed in the usual way. Result: precisely equal.

14.—Turnips at various distances apart on the Flat and Drilled.

Distances apart in inches.	Flat.		Drilled.	
	lbs. per acre.	Bushels per acre.	lbs. per acre.	Bushels per acre.
14 x 12	25,440	424	25,800	430
18 x 9	19,200	320	25,800	430
27 x 6	19,500	325	23,400	390
Means.....	21,380	356	25,000	417

This is an experiment that has been tried in Scotland with varying results, but having a tendency in favour of the smaller area allowed to each root, or set of roots. The above is the result of Carter's Imperial Hardy Swede on plot 12 ; manured with farm-yard dung the previous fall, and an addition of 400 lbs. salt, and 400 of bone dust per acre in the spring. Sowing was done on 26th June. Plants came earlier and stronger on the flat than on drills. We have a superficial square area of 164 inches in each of the three modes of cultivation. On the flat 18 x 9 and 27 x 6 are about equal in amount of produce, but with 30 per cent. in favour of 14 x 12. In drill 14 x 12 and 18 x 9 are equal, with a deficiency of 11 per cent. for 27 x 6 ; so that all over we have :—

14 x 12 giving 427 bushels per acre.
18 x 9 " 375 " "
27 x 6 " 357 " "

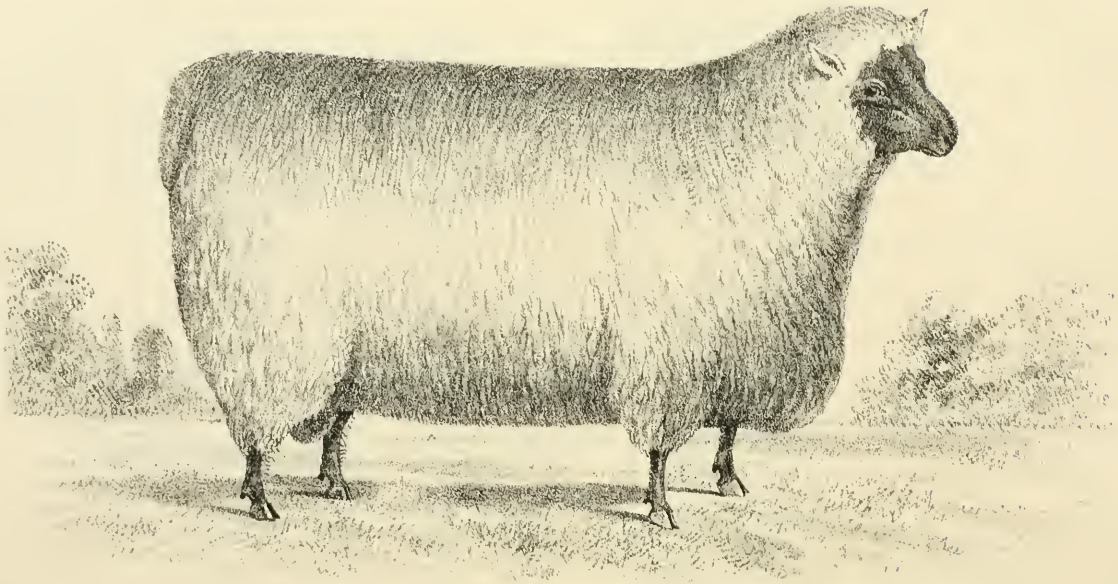
and drilling 6 per cent. over flat cultivation. With the present conclusion in favour of drills 14 inches apart, and plants 12 inches in the rows, we must not forget the greater difficulty and danger in horse hoeing. Bulbs were necessarily small.

15.—Mangolds in Opposition, and Result of Transplanting.

First, with reference to kinds, the accompanying table exhibits the results of cultivating twelve, and is the actual produce in each case from plots 10 and 11. Management :—20 loads farm-yard dung, with 400 lbs. salt and 400 lbs of bone dust per acre on 22nd May ; drilled and sown the following day. There is no very great difference in produce—the smallest of those where blanks were left being Carter's Yellow Fleshed Tankard, and the highest, Carter's New Champion Intermediate—from 726 to 1,113 bushels per acre. The average of the long varieties is 1,148, that of the Intermediates 897, and that of the Globes 937 bushels per acre. For approximate feeding value, see chapter on that subject.

Another lesson in this experiment is the value of making up blanks throughout a field. One half of the mangolds named were made a full crop at the time of thinning—blanks being at the rate of 6,300 per acre. Weather was most favourable for this purpose, on 3rd July (see weather table), and all succeeded with the exception of the Long Red, as shown.

Much comment is unnecessary with a table so full ; the strongest way I can put the lesson to ourselves and others is by saying that on one of our 20 acre fields, mangolds, if blanky to this extent, and transplanting being done so successfully, would mean an increased value of exactly $1,000—the roots being worth 16 cents per bushel—less, of course, the extra cost of the making up, which could not exceed $3 per acre.



Oxford Down Ram

Varieties of Mangolds against each other, and the result of Transplanting.

	1	2	3	4	5	
KINDS.	Actual number of roots grown per acre.	Number of blanks per acre.	Average weight of each root in lbs.	Weight of roots actually grown, lbs.	Bushels per acre.	
Carter's Warden prize	16,418	5,982	3·49	57,300	955	Blanks left.
Carter's Mammoth prize, Long Yellow	15,200	7,200	3·79	57,600	960	
Carter's Mammoth prize, Long Red	10,946	11,454	5·92	64,800	1,080	
Carter's Yellow Fleshed Tankard	16,500	5,900	2·64	43,560	726	
Carter's New Champion Intermediate	19,580	2,820	3·41	66,780	1,113	
Carter's Sandringham Globe	16,550	5,850	2·90	48,000	800	
Yellow Globe	22,400	none.	2.49	55,740	929	Blanks made up.
Long Red	18,195	4,205	4·00	72,780	1,213	
Intermediate	22,400	none.	2 28	51,180	853	
Elvetham Long Red	22,400	none.	3·70	87,180	1,453	
Long Yellow	22,400	none.	2·50	61,980	1,033	
Red Globe	22,400	none.	2·86	63,960	1,066	
Means	With blanks 3·69					
	Without blanks 2·97					
				With blanks 56,340		939
				Without blanks 63,803		1,063

16.—Mangolds under four Conditions.

Here we may have a check upon the fall and spring manuring of turnips, as given in another chapter, along with the extra experiment of early and late sowing. Plot 6 formed the field of these,—the subject being Carter's Prize Long Red Mangold.

On 6th November, 1877, ploughed under equal parts of horse and cattle manure at the rate of 48,400 lbs. per acre on south-east half of plot; and on 15th April, 1878, did same to north-west portion. Usual harrowing, cultivation, and drilling. For the early batch sowed on 14th May, across both fall and spring manuring, and for the late, just one month after, *i.e.* on 14th June. Germination above surface took place freely 16 days in both cases. The produce in the following table is actual without filling up blanks, which were few. The first noting is early sowing under fall manuring, giving 347 bushels more than the general mean, and 188 bushels over early sowing by spring manuring. Late sowing by fall manuring is 576 bushels less than the same manuring by early sowing, and 229 under the general average, while late sowing by spring manure is 14 per cent. less still.

THE CULTIVATION OF MANGOLDS BY LATE AND EARLY SOWING, AND FALL AND SPRING MANURING.

	Early Sowing.			Late Sowing.			Late and Early Sowing Combined.	
	Fall Manure.	Spring Manure.	Fall and Spring Manure combined.	Fall Manure.	Spring Manure.	Fall and Spring Manure combined.	Fall Manure.	Spring Manure.
Lbs. per acre	76,600	65,320	70,960	42,000	39,000	40,500	59,300	52,160
Bushels per acre	1,276	1,088	1,182	700	650	675	988	865
				General mean...		929	Bushels.	

Early sowing, under any other condition, is 532 bushels in advance, and fall manuring means 123 bushels over that of spring manuring on an average of late and early sowing.

One idea in late sowing of Mangolds is to ease the rush of other work that necessarily takes place during the second week of May, but as the loss in a field of 20 acres would amount to $1,500, the case is not admissible in practice.

17.—MANGOLDS, TURNIPS AND CARROTS, UNDER DIFFERENT MANURES.

Roots under special manures is not a new story in an old country, though yet comparatively new with us, and while it is probable that much of our new lands is not yet in need of help from direct phosphates, potash, or sodium, it is evident we are fast working up to the practice of older countries, when stimulants will be necessary to success in bulk of plant produce if not in nutritive value. I think the day is far off, however, if it ever comes—when these specials will take the place of that of our own making, as all sound practice still points to the manure heap for permanence, variety and value.

On 27th May, plot 36 in proportionate subdivisions, received the following quantities of manures :

Farm-yard dung, 40,000 lbs. per acre.
Superphosphate, 600 lbs. per acre.
Nitrate of soda, 300 lbs. per acre.
Bone dust (coarse) 600 lbs. per acre.
The crops were, Foley's Long Red Mangolds.
Carter's Imperial Hardy Swede,
and, White Orthe Carrots (Belgium.)

Sowed mangolds, on 22nd May ; carrots on 30th May ; turnips on 20th June.

The previous cropping of this plot consisted in 1876 of turnips with farm-yard manure, and of wheat without manure in 1877, so that it could have been but in a condition of average fertility last spring. I ask your particular attention to this as reference may be made to the close succession of roots after roots, and especially of turnips after turnips, and thereby accounting for some irregularities, in the 1878 results as shown with turnips under nitrate of soda and bone dust. You will observe, however, that any detrimental result should be expected from a repetition of farm-yard in place of any special manure—and as the crop of turnips under the former is here equal to the average of the same kind in other plots, any idea of previous exhaustion by the like crops may be laid aside as, at least, wide of the cause.

MANGOLDS, TURNIPS AND CARROTS UNDER DIFFRENT MANURES.

Bushels per acre.	Farm-yard dung in spring.	Superphosphate.	Nitrate of Soda.	Boue Dust.	Mean.
Mangolds	808	760	870	580	754
Turnips	324	276	28	32	165
Carrots	508	530	564	540	535
Mean	547	522	487	384	

Mangolds.—With these observe nitrate of soda leading by 62 bushels per acre over farm-yard dung, 110 more than supersphosphate, and 290 over bone dust.

Turnips—are almost an entire failure, with nitrate of soda and bone dust; not only were three-fourths of the plants awanting, but what remained did not average $1\frac{1}{2}$ lb. per bulb. Further careful cropping here, with the help of analysis, should uncover the cause.

Carrots—seem to have been least affected by varieties of manures, and take nearly the same position as mangolds in relation thereto. With this fact, the theorist might argue that mangolds and carrots being very deep rooters came less under the influence of any of the manures, than did the turnips, but in this again he is met by the reasonable conduct of the latter, with farm-yard dung, and but a slight deficiency under superphosphate.

Assuming that all the results of this experiment have been brought about by the natural order of things, there arises some practical figures of value to the farmer, thus:

Mangolds, Turnips and Carrots under	Bushels per acre,(Mean).	Value per acre.	Difference on a 20 ac. field.
Farm-yard dung give	547	$87	Standard.
Superphosphate	522	84	$ -60
Nitrate of Soda	487	82	-100
Bone Dust	384	66	-420

NOTE. – – stands for minus in this Table.

18—SEWAGE ON ROOTS.

The disposal of sewage with due regard to health, and profit, is still one of the unsolved problems of the day. All efforts are commendable, whatever the success may be. Let me briefly record ours.

SEWAGE ON MANGOLDS AND SUGAR BEET.

	Without Sewage. Bushels per acre.	*With Sewage.* Bushels per acre.
Mangolds	728	1066
Sugar Beet	1541	1800
Mean	1134	1433

Kitchen liquids and water closets, run into a reservoir one third down the slope of field A, immediately behind the college buildings. The emptying of this bi-annually by hand and deoderising with earth has been successful enough, however disagreable for a time.

The field has a fall of fully 20 feet from the reservoir to ditch, between A and 17 (see field plan), and, therefore, in lateral and triangular form we can command about two acres for irrigation by gravitation. But it is desirable to convey over a larger surface of the same and of other fields, or experimental plots, so we have had a 200 gallon water-cart constructed for drill and shower distribution. The cart is filled by overhead spout from reservoir to foot of field. By these two methods there should be no difficulty in utilizing the whole materials of this character. In order to secure a permaneney of surface for gravitation process, we have seeded down with Rye grasses and Lucerne, separately, as to which next year's report should give record; meantime examine the effect of sewage upon mangolds and sugar beet—the Long Red, and Large White varieties respectively.

Without sewage 728 bushels per acre is a fair crop of Mangolds, and with it, adds 46 per cent. to their bulk; Sugar Beet at 1541 bushels per acre, without sewage, is a very large crop, but sewage application gives 17 per cent. more. Now, such being the increase in a season of great moisture, what is it likely to be in one of great drought, other things being equal? Indeed, in place of 50 tons as got by actual weighing of the whole crop, I have no doubt of 80 being common under good management.

Our present year's example points to a difference of $1,000 on a 20 acre field.

19—Carrots under Various Conditions.

Compare the subjoined table with that under Mangolds (16) of the same experiment. An average crop of 717 bushels of carrots is a good crop under four conditions, and in using this as a relative base, we observe a lead taken by early sowing and spring manure—slightly over that of early sowing and fall manure which does not agree with mangolds. In other respects, however, there is agreement between these deep rooters. The difference may be caused by the difference of manure in 1877—farm-yard dung in plot 17 and nitrate of soda in No. 6—carrots and mangolds respectively (see Rotation)—accounting also for the oportionately larger produce of carrots over mangolds.

Carrots.—Late and early sowing, under fall and spring manuring. (Farm-yard dung).

——	Early Sowing.			Late Sowing.			Late and Early Sowing Combined.	
	Fall Manure.	Spring Manure.	Fall and Spring Manure combined.	Fall Manure.	Spring Manure.	Fall and Spring Manure combined.	Fall Manure.	Spring Manure.
Lbs per acre.....	48,600	48,800	48,700	38,200	36,400	37,300	43,440	42,600
Bushels per acre..	810	813⅓	812	637	607	622	724	710

General mean, 717 bushels.

20.—Potatoes in Competition.

This requires little explanation. Farm-yard manure, 20 loads per acre (load 2,000 lbs.) on 18th and planted on 22nd of May, in drills 30 inches apart. Late Rose, Peerless, Alpha and St. Lawrence came in the order of earliness, from 9th to 13th of June. Paris Green used to destroy bugs. Harvested from 3rd to 7th of September.

POTATOES IN COMPETITION.

Kind.	Marketable. Quantity per Acre.	Smalls. Per Acre.	Total. Quantity per Acre.
	Bushels	Bushels.	Bushels.
Alpha	173	30	203
St. Lawrence	216	7	223
Peerless	259	26	285
Late Rose	279	30	309
		Mean	255

In potatoes we want, I think, quality and quantity, medium size, the fewest smalls, hardiness, neatness of tuber, eyes not too deep, and good keepers.

Again, you will not forget the poor season for roots and tubers, and thus note the small average of 255 bushels of potatoes per acre.

The Late Rose is evidently a relation to the Early Rose (which latter, by the way, is now always so far ahead of all others that, for a time, it is debarred in competition)—leading as it does with 10 per cent. over the general, and 60 per cent. above the Alpha. The St. Lawrence has the least refuse—in which respect the others vary little.

21.—Potatoes by Different Sized Sets.

This was undertaken as a check upon the like experiment in 1876, when whole sets came out with 200 per cent. over one eyes, and 33 per cent. over ordinary sets.

On plot 35 this year, the early Ohio variety was planted in drills on 27th of May, getting 20 loads of farm-yard manure per acre. Whole sets appeared above ground on 17th, ordinary sets on 19th, and those with single eyes on the 21st of June.

The table of results shews 47 per cent. in favour of whole sets over those with one eye, and 23 per cent. higher than the ordinary sets. On a five acre lot this means $150 at ordinary prices.

POTATOES, BY DIFFERENT SIZED SETS.

Quantities per Acre.

Sets.	Marketable. Lbs.	Smalls. Lbs.	Total. Lbs.	Bushels.
Whole Potato	15,990	1,020	17,010	283½
Ordinary Cut	12,900	960	13,860	231
One Eyed	10,650	900	11,550	192½
Means	13,180	960	14,140	236

22.—Potatoes under Different Manures.

Having received from the manufacturers a sample for trial of the "Detroit Potato Grower," part of lot 7 was put under the Late Rose potato, with Brockville superphosphate in opposition to the other manure; quantity, 1,000 lbs. per acre in each case.

The Detroit manure gave 199 bushels, and the superphosphate 193, so that practically the difference is nil.

B—Animal Fattening.

During the winter of 1877-8 our School made two experiments in the fattening of steers :

1st. With four steers of our own breeding, four-fifths fat, and nine-tenths bred Short Horns.

2d. With six steers, bought in, half fed, and two-thirds bred Short Horns.

All animals were entered on the 8th Dec., and withdrawn on 6th March, being 87 days ; average age of all, 35 months and 15 days at latter date.

The food consisted of, daily :—

90 lbs. pulped swede turnips.
12 " cut straw, of sorts.
12 " crushed Indian corn.

Given in two forms, turnips and straw, put a-heap in alternate layers, so as to slightly ferment, and corn mixed with them when served ; and other pulped turnips direct from the machine.

The four steers on entry averaged 1,512 lbs., and 1,754 when finished, thus gaining 242 lbs. in 87 days, being 2 8-10 lbs. per day, or 16 per cent. on their weight.

The six steers on entry averaged 1,260 lbs., and 1,492 when withdrawn, thus gaining 232 lbs., being 2 7-10 lbs. per day, or 18½ per cent. on their weight.

So we can make the following balance sheet, according to current market prices, attendance and manure to meet each other, for safe figuring :

1st Example.

Cost of straw, $5 per ton	$2 61
Cost of corn, 50 cents per 56 lbs.	8 70
Value of animal when entered, 1,512 at 5½ cents	82 16
	$93 47
1,754 lbs. sold for 6 cents	105 24
Balance to credit	$11 77

Representing the value of 7,830 lbs. of turnips, or 130 bushels at 9 cents.

(Memo.) In England turnips are valued on an average at 7 cents per bushels of 60 lbs.

2nd Example.

Cost of food as above	$11 31
Value of animal when entered, 1,260 lbs. at 3¾ cents	47 25
	$58 56
1,492 lbs. sold for 5¼ cents	78 33
Balance to credit	$19 77

Representing the value of 130 bushels of turnips at 15 cents.

There is material here for some very nice discussion and comparisons. Let me approximate the conclusions.

1. That well-bred steers, nearly prime fat, gain 3½ per cent. more on the same food than others that are not so well bred, and that were also 6 per cent. less in weight when put in competition.

2. That, *in proportion to weight*, the half fed steers gave 58 per cent. more profit than the others.

3. That, according to weight, the half fed steers gave 2½ per cent. more increase than others almost prime.

4. That, in proportion to weight, the half fed eat 18 per cent. more food than the others.

5. That, as an investment, without reference to manure, the matured animals returned fully 9 per cent., and the half-fed ones 40 per cent. on the original cost, being a difference of 31 per cent. in favour of the leaner animals.

No doubt there are circumstances for and against each of these conclusions, which it may be well to notice:—

a. The previous treatment of our own bred cattle was likely more favourable.

b. The change of place and food was against the others, and

c. Their want of breeding may be against them.

Note how much fat, heat, and flesh substances of food was required to produce a certainty quantity of beef.

One animal, in 87 days, eat—

	Turnips. lbs.	Straw. lbs.	Corn. lbs.	Total. lbs.
Flesh, fat and heat producers.....	574	441	831	1846

In the case of all the animals, therefore, the 1846 lbs. of fat, heat, and flesh forming substances in the three sorts of food, seem to have been required to make 236 lbs. of probably the same things in the animal frame.

This, we find, was one of flesh to 7 of fat.

There is then, under proper management, proper food, and with the proper animal, a large profit in growing beef.

The four steers, thus handled, went to Ottawa, after having taken 1st and 2nd prizes in both classes under and over three years old, at the Guelph Easter Fat Show, as well as the Sweepstake there; and four of the six others, were shipped at Boston on the 3rd April, with a lot of 75, direct for Liverpool.

As further evidence of what may be done by any ordinary farmer in the ever growing importance of good beef making for exportation, recall to memory that on the 1st Dec. last, I got the use of $600 in order to purchase steers for the consumption of an extra quantity of roots that we calculated would be safe in hand. The statement will be short and pointed:

Purchase of 2½ year old half-bred Durham steers 8,610 lbs. at $3.75		$322 67
Purchase of three milch cows		135 00
		$457 87
Cost of turnips, straw, and corn consumed by steers		170 17
Cost of turnips and straw consumed by cows		31 00
		$659 04
Attendance		26 10
Interest on $600 for three months at 7 p. c.		10 50
Total debit		$695 64
Sale of seven steers at end of three months, 10,220 lbs. at 5¼ fully	$541 12	
Sale of three cows and value of milk	160 00	
	$701 12	
Estimated value of manure	24 00	
Total credit		$725 12
Balance, being free profit		$ 29 48

So that, not only did I return the $600, with interest at the end of three months, but our extra food was converted into manure, and a clear profit of five per cent. made on the transaction:

Need the Canadian Farmer Hesitate?

He is not hesitating, I am glad to say:

Such is the demand for steers in preparation for winter feeding, that butchers are being entirely outbid by farmers at the present date—anything good, averaging about 1,100 lbs., is not to be had under 4 cents per lb. This looks well, and is but the beginning of a great change in our profession—and why not a change?

All farming practice is at first guided by what the climate and soil will allow—not so much by any definite principles as related to skill. Thirty years ago we grew and fed what we found to do best, without reference to any outside national relations; but now, growing and feeding more than we need ourselves, we are able to help others. The wants of others vary according to circumstances—according to changes in society, and changes in nature, naturally or artifically produced. We then have to change our plans to meet these changes, and we must change with the change of our markets. No doubt, at times we make a market—if we develop a new material profitably for the public taste. There are then periods, or cycles, of agricultural change, independent of any principles in science or practice. It is no argument that by following such we are unsteady or unsystematic. We cannot avoid these changes; we have to follow them or take a third place in our profession; the progressive, enterprising farmer takes immediate advantage of them—he first in the field is the first to benefit. A memorable change was the abolition of the English corn laws, which gave such great impetus to other professions that there grew up a large demand for certain farm products, and so cast attention to the production of the products required. No change of similar importance has occurred during the present century, and that next to it is now at our doors—the growing of flesh for England. The change began there—not with us—causes numerous, such as cattle disease, insecurity of land tenure, and peculiar seasons have made it. As the change implies less white and more green cropping, it also means a complete recuperation of the soil, which for long has been calling for a change. The growing of flesh will do this—nothing is more certain, and nothing more simple, and few things so directly profitable. We are bound to follow, and even lead in this great change; the market is certain—may be said to be unlimited even under competition. But competition has been the grand back-bone of farming in England, as it will ever be there or in any other country; the more we are made to feel our weight, as against any other country, in this respect, the sooner will we become model farmers.

I repeat, we are on the eve of a *new system of farming*, in which every item of intelligence becomes invaluable. It has long been flour and flesh—now it must be flesh and flour.

Looking forward it is evident that the collection of agricultural statistics is indispensable in this connection. There can be no really sound legislation without reliable data in regard to every department of a country's interest. No government should be satisfied with the agricultural progress of their charge unless in a position annually to check by details. The securing of these accurately is the difficulty. Canada will never be in a position to estimate correctly her agricultural resources and food producing capabilities, until a proper plan of annual agricultural statistics is established.

C.—Experimental Summary.

And now, it will serve more purposes than one if we eliminate such of the results of the foregoing experiments, and those of previous years, as are considered of some value to the practical agriculturist:

1. In pig feeding, raw pease are 50 per cent. better than cooked pease or Indian corn in any form.
2. Whole sets of potatoes are 123 per cent. greater in produce than single eyed sets, and 28 per cent. better than ordinary sized ones.
3. On loamy soil, having a south-eastern exposure, fall wheat matures in 70 days under a mean temperature of 70° 5′ by day, and 48° 8′ by night.
4. The hoe cultivation of spring wheat, with half the seed, is 150 per cent. better for grain, straw, and weight per bushel than that uncultivated.

South Downs

5. Fall manuring is 20 per cent. better in produce of mangolds than spring application.
6. The white Belgian carrot is 80 per cent. better than the Altringham variety.
7. Orchard, Timothy, Rye and Sweet Vernal Grasses—from best to least—endure drought respectively.
8. Sanfoin, Red, Alsike and White clovers—from best to least—endure drought respectively.
9. Soule, Gold Medal, Arnold's Victor and Clawson (fall) wheats—from least to worst—are affected by rust respectively.
10. Soule, Silver Chaff, Clawson, Gold Medal and Arnold's Victor, Wheats—from least to worst—are attacked by Hessian fly respectively.
11. During the first year, with Oats and Barley, nitrate of soda, gypsum, superphosphate and bone dust, are the most valuable manures respectively.
12. The large White variety of Sugar Beet will give 50 tons per acre when manured with Sewage.
13. The Minnesota Early Amber variety of Sorgo, or Sugar Cane, will ripen at an elevation of 890 feet above Lake Ontario, in a mean temperature of 70°.
14. Flax, to the value of $40 per acre can be grown in such a season as 1878.
15. Fifteen tons per acre of Lucerne is easy of management.
16. Twenty-four tons per acre of the "Thousand-Headed-Kale," or Tree Cabbage, may be the special result of 1878 season.
17. Twenty tons of Rape per acre, is common.
18. Filling up blanks among Mangolds gave $50 additional per acre.
19. Sowing of Mangolds after the 1st of June is unprofitable.
20. Fall manuring and early sowing of Mangolds means a half more crop.
21. Farm roots, *the first season*, are best under farm-yard dung, second with superphosphate, third with nitrate of soda, and least with bone dust.
22. Short Horn grade steers can be bought at 3½ cents per lb., live weight, fed on turnips, straw and Indian corn for three months and sold at 5½ per lb., live weight; realizing a profit of $15 per head, exclusive of manure.
23. Money can be borrowed at 7 per cent., steers purchased, fed, and sold, and a clear profit of 5 per cent. realised.
24. The fall manuring of land for spring wheat implies a difference of $115 on a 20 acre field, as against spring management.
25. Barley is indifferent as regards fall or spring manuring.

VII.—Practical Instruction.

1.—*Special.*

On the 30th of April last, I wrote you to the following effect:—

I believe you are aware that we are, by past experience, convinced that thorough instruction in outside work is not possible on a farm managed partly with a view to profit—giving few chances to 60 or 80 students, because the work has to be pushed; seasons and crops will not wait until *all* have had a turn at the various operations. For example, under no circumstances, by present arrangement, could we give so many pupils a *handling* in management of horses, ploughing, harrowing, rolling, grubbing, manuring, seeding, cultivating and harvesting within the year, and at the same time detail them to other departments daily or weekly, but we can do so in the feeding and management of other animals, and in most other respects our farm is well appointed for education. In the case of the operations first mentioned not more than one-half of the students can get but *one trial* per annum, and then at the loss both of work and lessons.

The point then is, can this be remedied? Is it possible to give each student some lessons for two consecutive years in all the works named? That they are most essential is certain, not only from the fact of this very thing being the rock on which most other Agricultural Colleges have made shipwreck, but students themselves are daily calling for it—all anxious to have more direct, systematic and special instruction in practical operations.

In view, therefore, of your concurrence, I beg to recommend the following plan:—

1. A piece of land, say five acres, to be set aside solely as an "Instruction plot."

2. A good ploughman, and otherwise well up in his profession, with a team of suitable horses, to be kept for educational purposes, but both to work on farm when not engaged in instructing students.
3. Here, during every suitable day of the year, a certain number of those students who require such instruction, to be sent, in forenoon and afternoon batches.
4. A daily record of each student's progress to be kept.
5. As far as possible, no student to be allowed to perform responsible work on the farm until he passes this department.

Thus simply do I propose to meet a great want, and in doing so I beg you will remember that I am against any system of cramming, as being most pernicious, especially in practical work; practice in farming cannot be schooled so much as the sciences may, nor can any forced plan of multiplication of manual labour, even in two seasons be equivalent to the more natural one extending over three and four; and otherwise throughout the departments of this Institution there should, in my opinion, be no idea of alteration in what has worked so well, nor even to enter upon anything new without a clear confidence of success. But in this matter of practical instruction I have no doubt of success.

On the 10th May I had your favourable reply to this recommendation, from which I take the liberty of using an excerpt:—"I feel quite satisfied in authorizing you to proceed with the out-door instruction in accordance with the improved plan laid down in your letter. Our College is succeeding so well, and having now established itself as a popular institution, I do not think I would be justified in refusing my consent to the carrying out of a scheme which has met with the approval of yourself and the President, and which certainly must commend itself to every well-wisher of the Institution."

Accordingly our "Instruction Department" was opened on 13th May by placing Henry Dawson, one of our leading ploughmen, and one of the farm teams in possession of five acres of No. 17 field. Here, ever since, during open session, from 8 to 10 students daily, and alternating over the 70, have undergone through practical instruction, in what and with what success, the following progress table will exhibit—10 marks being the maximum for each item.

PRACTICAL INSTRUCTION PROGRESS.

	Mean of 1st. Week.	Mean of Last Week.
Cleaning horses	3	8
Harnessing horses	2	8
Managing horses	2	9
Ploughing	1	6
Harrowing	3	9
Cultivating	4	10
Rolling	5	10
Sowing by hand	1	5
Sowing with machine	2	7
Drilling land	0	4
Mowing with scythe	1	4
Mowing with machine	4	9
Reaping with machine	0	5
Cocking hay	3	8
Loading hay	3	6
Average progress from	2·27	to 7·20

Further comment is unnecessary on my part, but be assured of this that the Institution and the country will not forget your liberality in the establishment of such an important department.

2.—GENERAL INSTRUCTION.

Very much of this was explained last year, and all that need now be given is what

should be kept on record for future reference. Thus, take first, the result of our sheep-shearing competition, in which the following students took high marks in the order named:—

1.—G. White, Clarksburg, Grey.
2.—J. Clark, Montague, Lanark.
3.—J. B. Warren, Oshawa, Ontario.
4.—A. Fife, Guelph, Wellington.
5.—W. Stewart, Hornby, Halton.

Of course all others had practice, but were not advanced enough to be put into competition.

Land Measuring with advanced students has had rather more than its usual place, by reason of areas being needed in connection with drainage, quantities of different crops, and new sub-division of fields.

Levelling for drainage, road-making, projected conveyance of water to College buildings, and cattle court renewal, has been performed by students.

Planning of drainage in progress, and sections of levels, have also formed part of their instruction. There is but one regret in connection with these lessons—which, by the way, are entirely voluntary on my part—there is too little time to overtake thorough work with every student.

The Farm foreman has, of necessity, a much varied and hourly round of instruction to attend to—minute and trivial looking as the holding of a fork up to the intricate handling of a Reaper and Threshing machine—in all which Mr. Stirton exhibits a conscientious thoroughness.

The Gardener has a multiplication of niceties and careful handling that taxes most of the virtue to which humanity can lay claim, yet it is well done by Mr. Barron.

The Mechanical foreman as the representative of much that must be spoiled and lost in an education that has much value without corresponding visible returns, has a part to play which none envy, and few could fill so efficiently as Mr. McIntosh.

I would be derelict in duty were no reference made to others.

To Mr. A. Nicol, Superintending Student of the Experimental Plots during the past season, for much careful work thoroughly done; to Messrs. Ash and Naismith (students), of the Centennial seed plots; Mr. Carey, of Poultry management, and to Mr. H. Dawson of the Instruction Department, I beg to acknowledge services faithfully performed.

These acknowledgments are no empty forms on my part as not possessing unlimited acquaintance in what I am permitted to *profess*—success, progress, and efficiency, have for their foundation sources that, in many such situations, are purposely kept in the shade.

Illustrations of Animals.

It having been suggested to us that illustrations of some of the typical animals of the different breeds kept at our Experimental Farm, would not only serve to add interest and value to the annual Reports, but also be of service in some educational respects, I have pleasure in beginning what may become an important cabinet in our records. As we possess no fewer than *six* pure breeds of cattle, *five* of sheep, and *two* of pigs, there is already material for 26 portraits, on the plan of giving one male and female of each; but besides these, such crosses of our own production as may become of national importance will also have to be thus recorded, so that altogether some 40 illustrations may be looked for. These should be completed previous to 1882 in order to afford early consecutive reference. For this year I am only prepared with six figures in place of ten or fourteen, and those rather irregular as regards order of kind. They are from photographs by Mr. John Morton, of Fergus, Ont.

A short account of each animal will appropriately accompany under this head:

Hereford Bull.—"*Duke of Connaught*" (4528), calved 27th November, 1873, out of *Sultana* by *Alexander* (3653), bred by H. M. The Queen, at Windsor; is not a large animal of the kind, but remarkably even and sweet. He has great length of rump and deeper hams than shown in the illustration. Some judges might like him a

little fuller immediately behind the elbow and with a rougher head and horn, and perhaps less flatness on the shoulder, but altogether, if not a model, he would stand 90 per cent in the show ring. Weight, 1740 lbs., without high feeding, not having received meal or cake in any form since importation in 1876. His stock have sold readily at $100, and we now have offers of $200 and $300 for bull and heifer calves respectively.

Short Horn Cow.—"*Louan of Brant* 5th," calved 4th Feb., 1871, out of *Louan Brant* 2nd, by *Knight of St. George* [1630], 8472, (26544), bred by the Hon. D. Christie, the Plains, Paris, Ontario, is a remarkable animal of the type as regards milking properties. Along with one of the Ayrshires, she is the heaviest milker of all our kinds. While possessing some of the leading points of her family in regard to depth and breadth of frame, she very distinctly shows the principal characteristics of the milker in the long face, clean neck and crop, and prominent escutcheon. Never gets fat.

Ayrshire Cow.—"*Beauty of Drumlanrig*" (and her calf "*Beauty of Guelph*,") calved, April, 1872, out of "*Grey Bess*," by "*Burnhouse*," bred by His Grace the Duke of Buccleugh. As a three year old "Beauty of Drumlanrig" stood 5th in the Glasgow Derby of 1875, and 15th in that of Ayr of the same year among a large number of competitors. She is in every respect a perfect Ayrshire, and has given very fine produce. The calf, "*Beauty of Guelph*," shown with her in the portrait, is by "*Sir Walter*," our imported bull, that, when one year old, was 1st at Kilmarnock, 2nd at Ayr, 1st at Sanquhar, and 1st at the Highland Society's Show at Glasgow, and when two years old, was 2nd at Kilmarnock, 3rd at Ayr and 3rd at the Highland Society's Show at Aberdeen. From such a source "*Beauty of Guelph*" may be looked upon as first-class. An American professor, well known in dairy circles, estimated that "*Beauty of Drumlanrig*," properly fed, would give six times her own weight of milk per annum. The cow weighs 980 lbs., therefore 5880 lbs of milk. ?

Angus or Aberdeen Poll Cow.—"*Leochell Lass* 4th," (1864), calved January 1872, out of "*Leochell Lass* 3rd," by "*Hero of Boghead* (417)," bred by R. O. Farquharson, Esq., of Haughton, Aberdeenshire; admitted by all visitors to be the most compact animal in our herds. Broad, deep, even, and roomy, she is essentially a beef breeder, and an excellent representative of the now famous Polls of Aberdeenshire. Weight, 1458 lbs.

Angus or Aberdeen Poll Heifer.—"*Eyebright 2d*" calved, July, 1877, out of "*Eyebright*" (3,001) by "*Sir Wilfrid*" (1,157), bred at The Ontario Experimental Farm. This, our first calf of this breed gives promise of being worthy of such a sire—lengthy, roomy, very even, characteristically docile, and when six months old was judged, and valued by James McDonald, Esq., *Scotsman* reporter, at $200. "*Sir Wilfrid*" has not, I think, been beat in the show ring for the past three years.

Border Leicester Ram.—"*Kinnochtry*," three shear, bred by Thomas Ferguson, Esq, of Kinnochtry, Forfar, Scotland, is already so well known by his produce at Agricultural Exhibitions in Ontario, as to require but little notice. Great girth, prominent brisket, muscular neck, well-filled crops, strong, broad loins, deep barrel, springing rib, and the characteristically contracted thighs, and somewhat ewish head of the border type of the English Leicester. Weight 295 lbs., average fleece, 17 lbs. unwashed.

VIII—GENERAL SUBJECTS.

1—Feeding Value of our Turnips and Mangolds.

We grew thirteen varieties of swede turnips, and eleven of mangolds this season.

Sharp's Improved swede, of an oval shape, was rather thick necked, but beautifully grained and spotted in the flesh, and remarkably sweet.

Skirving's has a very finely mixed flesh on the upper half of the bulb, but streaky below.

The *White Swede* is also very evenly fleshed and generally neat.

Carter's Imperial Hardy, resembles the East Lothian in flesh, is of an oval shape, and distinct in character.

The Bangholm is somewhat stringy in flesh, but otherwise has marked merit.

East Lothian presents a wavy stamp of flesh, is remarkably solid, and of a distinct character.

The *Bloomdale* ruta-baga, from Ledworth and Son, Philadelphia, is globe-shaped, very fine necked, and also remarkable in solidity.

Shepherd's Golden Globe, has little of the globe form, and is very irregular and stringy in flesh.

Sutton's is well shaped though small, and medium in most qualities.

Dale's Hybrid has a delicate appearance of flesh, very irregular in shape, but well up otherwise.

Marshall's is characterized by a very even grain, or mottling.

The *Bronze topped* Swede, is a globe having well mixed flesh, rather thick necked, but otherwise very nice in shape.

Hall's Westburgh is irregular in flesh and, in comparison, remarkably low in specific gravity.

Turnips should be judged, not only by produce per acre, but their feeding value as ascertained by analysis, or what is better, by actual experiment. The form varies with the kind, and choice can be made for heavy or light soils according to habit of growth—whether a shallow or deep rooter. The fine neck, as indicating quality, is one of the best guides, and *compactness* of shape is preferable for general cases. We are all desirous of having bulk, but as regards character of flesh how few pay attention to the following :

1. Evenness of grain throughout.
2. No stringiness, or maiden's hair.
3. Radiation, or streakiness of cellular tissue is objectionable.
4. Regular marbling is good.
5. Much mottling with dark spots is not good.
6. Spirals, or twisted grain or tissue is not desirable.
7. A waxiness is an indication of solidity.
8. The general colour should be of an orange tinge, and distinct orange spots, averaging $\frac{1}{8}$ of an inch in diameter, are frequent in the best bulbs.
9. Flavour varies much, but it is observable that a sweetness accompanies the most solid.

Our poorest swede this season is stringy, streaky, irregularly marbled, and mottled, has a medium flavour and is fourteen per cent. less in specific gravity than the best.

Our best swede has an even spiraled grain, a waxy reflection, orange spots irregularly distributed, an orange tinge throughout and is fourteen per cent. greater in specific gravity than the poorest.

MANGOLDS :

The Red Globe is rather oval in shape, neat necked, little root, very compact, and has red-streaked flesh.

The Yellow Globe is also somewhat oval, but slightly yellowish in flesh, and remarkably solid.

Carter's Mammoth Prize Long Yellow is not yellow fleshed, not even yellow-tinged, is too narrow in form, rather rough necked, and has a delicate appearance of flesh, though very sweet.

Carter's New Champion Intermediate, keeps to its name in shape, is yellow stringed in flesh, not unlike the Tankard, but thicker bodied and neater necked.

Elvetham Long Red, carries its thickness well down, and is much more white than red fleshed.

Carter's Sandringham Globe is a very neat bulb, without much root, and has yellow-tinged, sweet flesh.

Long Red, may be a variety of other long reds, has two-thirds of its flesh red, and is but medium in most qualities.

Carter's Yellow-fleshed Tankard is a very long tankard, having the yellow distinct from the white in many bulbs, is roughish necked, but otherwise good.

Carter's Warden Prize is an oval-shaped globe, neat neck, and light-coloured flesh.

Foley's Long Red is a wedge-shaped bulb, having a neat top, rather long top root, is more white than red in flesh, and low in specific gravity.

Carter's Mammoth Prize Long Red is characterized by a thick body, a somewhat thick neck, and a nice manageable tap root.

I beg to submit a table of all the turnips and mangolds thus slightly sketched, in which is given their weight per cubic foot, or specific gravity, the flavour, the value of both points, and the order of merit according to such data.

Observe the remarkable difference in solidity—ranging from 64 to 74 lbs. per cubic foot in turnips, and from 61 to 75 in mangolds; the mean for turnips is higher than that of mangolds, but an individual mangold heads the list in this respect. Flavour varies, apparently without regard to the previous quality, but yet having a tendency to sweetness as specific gravity increases.

Guide to the Feeding Value of our 1878 Turnips and Mangolds.

KINDS.	Weight per cubic foot.	Flavor.	Weight Value.	Flavor Value.	Order of Merit.
Turnips—*Swede.*	Lbs.				
East Lothian	74	Acrid	99	70	6
Bloomdale	73½	do	97	70	7
Bangholm	70½	Medium	93	80	5
Sharp's Improved	70	Very sweet	93	100	1—Best.
Sutton's	70	Very acrid	93	60	9
Skirving's	69½	Sweet	92	90	2
Shepherd's Golden Globe	69½	Acrid	92	70	8
Dale's Hybrid	69½	Very acrid	92	60	10
Marshall's	68½	Acrid	91	70	11
White	67	Sweet	89	90	3
Carter's Imperial Hardy	67	Slightly acrid	89	85	4
Bronze topped	66	Medium	88	80	12
Hall's Westburgh	64	do	85	80	13—Least.
Mean	69				
Mangolds.					
Yellow Globe	75	Sweet	100	90	2
Elvetham Long Red	68½	Slightly acrid	91	85	4
Red Globe	68½	Very sweet	91	100	1—Best.
Carter's New Champion Intermediate	68½	Slightly acrid	91	85	4
Carter's Yellow Fleshed Tankard	68½	Acrid	91	70	7
Carter's Warden Prize	68	do	90	70	8
Carter's Mammoth Prize Long Red	66½	do	88	70	10—Least.
Carter's Mammoth Prize Long Yellow	66½	Very sweet	88	100	3
Long Red	64½	Slightly acrid	85	85	6
Carter's Sandringham Globe	64½	Sweet	85	90	5
Foley's Long Red	61	Slightly acrid	81	85	9
Mean	67				

2.—A Hand-Book on the Cereals.

During the last three years we have cultivated

70	varieties and sub-varieties	of	Fall Wheat.
59	"	"	of Spring Wheat.
41	"	"	of Oats.
12	"	"	of Barley.
182			

Now, the country is entitled to a full and carefully prepared record of our work with these—their individual characteristics as regards straw and grain, what that straw is in every particular; the classification of the plants according to form of head; the specific character of the grain in all such respects as would be of use for comparison, together with the milling qualities of each.

To do this would require space equal to our annual Report, and more time than I can possibly afford at present. As, however, very many of our leading farmers and merchants place more value upon our researches in this direction than they do on other departments, it is for you to consider whether the subject is deserving of a special pamphlet for circulation, or whether other three years should be allowed to elapse ere taking such a step. The question is this—would a preliminary report in the shape proposed tend to elicit further information, and so incite interest as to call for an extension of the Experimental Department?

3.—The Milling of some Wheats.

One of the most common enquiries made by those who correspond with me regarding the general character of our wheats under trial is—"How does it mill?" As a rule, I am unable to satisfy, because quantities are often so small, and the number too large, to have them sent through a regular flour mill.

I am of opinion that it would add immensely to the value of our work, were we by some simple and accurate process, to test the grinding conduct of each of the varieties of wheat as cultivated here year after year.

I understand that flour is usually judged by its liveliness, cleanness, grittiness, and what of fines, seconds, and bran, come from one bushel of grain, or, in other words, the nature of the milling, and the sample of wheat. In order therefore, to correspond our testing with ordinary grist-mill practice, a sort of *Quern* should be obtained, made of similar stone, similarly prepared as those in common use in the country. Any preparatory process, such as smutting, &c., could be done by hand, and of course the sieving is a simple operation.

As evidence of our zeal in this interesting particular, and also for the purpose of sounding the public mind on the subject, I have pleasure in submitting a table of milling as done by the Experimental Department here with some of the principal wheats of this year's growth. A good coffee-mill was the machinery, and sieves similar to bolting cloth (No 10), and others in flour-mills. We chose the medium size of bolting-cloth, No. 11 being too fine for the farmer's use, and No. 9 would be too hard on the seconds or middlings. Of course, in all this I am subject to the opinion of practical millers, whose criticism I now invite.

If the same grit and set of stones should prove the value of our wheat against any other wheat, then our improvised grist mill work is good for comparison; if stones "*cut*" the grain and do not *crush* it, then our plan is not good, as should be evidenced by "liveliness" and dulness of flour respectively; if the one "shells" off the bran and we have been, "breaking" it, then our amount of seconds and bran will be too heavy.

As a beginning, however, to this branch of our experiments, observe how closely our results correspond with British averages; among fall wheat:—

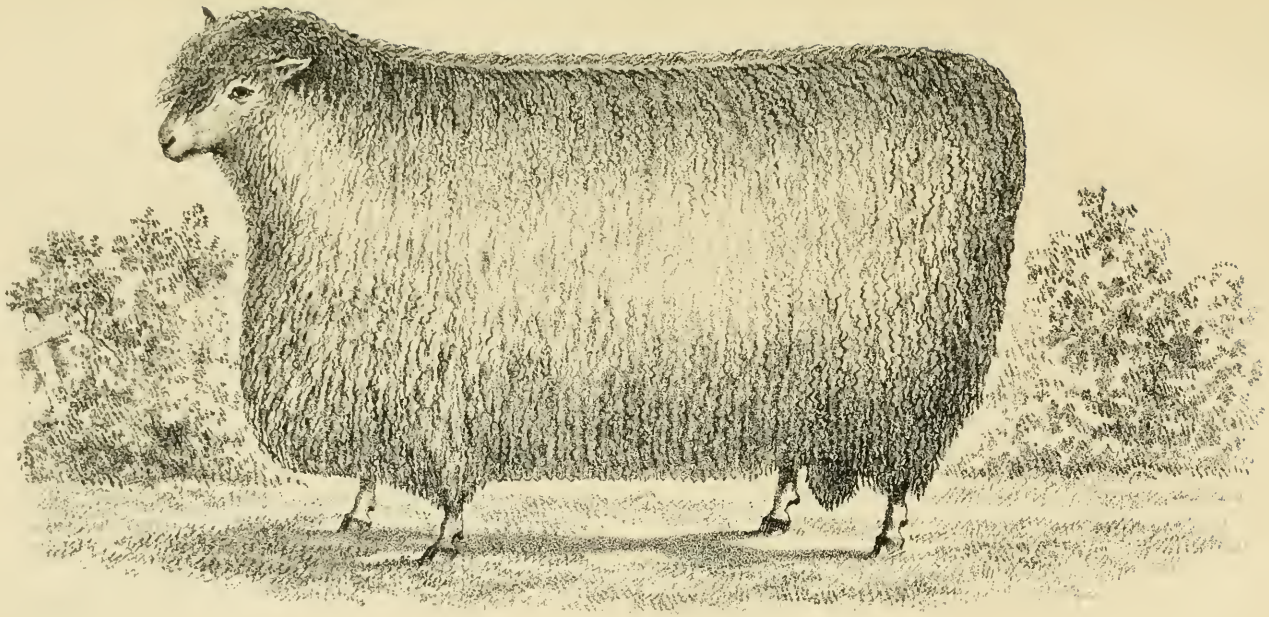
	British. lbs. per bushel.	O. S. A. lbs. per bushel.
Fine Flour	19	18½
Seconds	23	25⅓
Bran	18	16⅙
	60	60

I am not in possession of similar data for comparison of spring wheat.

Observe the great range of quantities of fine flour among fall wheats, and the low position the old Soule takes in this respect—not superior to the best of the spring. The Scott, we know, has always held a subordinate place as a miller. Arnold's Victor, as the newest variety on the fall list, well sustains its relationship to Diehl and Gold Medal—having the largest of fine flour and least bran of any; so also the aspersed Silver Chaff will surprise many—being no less than 60 per cent. ahead of its rival, the Clawson (or Seneca).

In spring wheats we have the good old Club in the lead, but with a warm neighbourhood from Lost Nation, Russian, McCarling, Defiance, and Rio Grande—the latter is particularly low in bran. The Defiance, Champion, and Gordon, are new varieties that give very fair promise of success, as is also the White Fife—being well up to the average. The Golden Drop is over the standard of its kind, though a poor sample this year.

You will not fail to notice the remarkably even quantities of Seconds (or Middlings) over all—fall and spring—such an accord that speaks of regular grinding, if it does not of good shelling, as, of course, thorough separation of the skin from the kernel, would make less bran, and more fine flour, if cutting be also perfect. But our process has left too much flour attached to the bran, and has nearly altogether failed to bring any flour from flinty wheat—evidence Rice and Arnautka, the Egyptian being such a withered up subject as to be incomparable with anything.



Cotswold Ram

DUKE

Quantity of Fine Flour, Middlings and Bran in one bushel (60 lbs.) of various Wheats grown at the Ontario Experimental Farm, crop 1878.

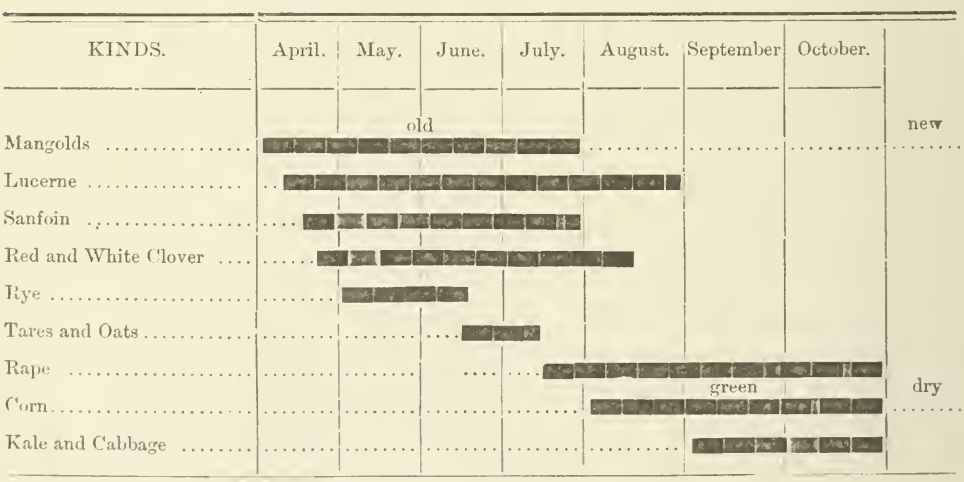
KIND.	Fine Flour.	Middlings.	Bran.
FALL :	lbs.	lbs.	lbs.
Arnold's Victor	24¾	24½	10¾
Silver Chaff	24¼	22¾	13
Gold Medal	22¼	25½	12¼
Clawson	15¼	31	13¾
Soule	14	24	22
Scott	11	24¼	24¾
Means	18½	25⅓	16⅙
SPRING :			
Lost Nation	13¾	24½	21¾
White Fife	7½	24½	28
Russian	11⅓	24⅜	24
Russian Baltic	8	24¼	27¾
Egyptian	1	25¼	33¾
Arnautka	3¾	24	32¼
Club	14	24½	21½
Gordon	7¾	24¾	27½
Champion	7½	30	22½
Defiance	11	24	25
McCarling	11⅓	25	23⅜
Golden Drop	10	25	25
Rio-Grande	11¼	30¼	18
Rice or Goose	1	22	37
Means	8¼	25¼	26½

4—Our Green Fodder Crops.

By "our" I mean what has been cultivated by ourselves this season; and looking to the change that is gradually coming over old plans, in the matter of feeding alone, a brief notice of the soiling crops cannot be out of place.

A regular succession of a variety of green fodders from 1st May to 1st November should be in the management of all good breeding and feeding. The clovers themselves could be regulated, under special attention, to supply all the year through, as, taking the Red, Alsike, Incarnatum, Sanfoin and Lucerne, their cultivation could so be arranged that continuous crops would be certain for soiling. On the larger scale, however, and where it is desirable to work up to rotations, a variety of plants is preferable. Thus, take our case during the past summer, where the practice is to house all bulls, calves, and fattening animals. Beginning with a cut of red clover from the regular field rotation on 30th April, it was followed by fall rye on 1st May, with which two we alternated until the second week of June. Rye soon got beyond our reach, and so for the space of one week somewhat tough stuff had to be used until relief came with tares and oats on 22nd June. Along with these, of course, were first and second growth clovers, so that on the 20th July, when rape could be cut, six distinct plants were available—counting Lucerne, Sanfoin and Mangolds. A week later Indian corn was added to the list; and further with reference to mangolds, I wish to record, that along with the green fodders proper, we had on hand to 1st August, a large and regular supply of them from 1877 cultivation, as hard, fresh and sappy as the day they were harvested; the old mangolds saw 7 lbs., new ones at that date. Add to these the thousand-headed-kale referred to in experiments, as well as cabbage, and the following table is the result of time, duration and connection :

Green Fodder at the Ontario Experimental Farm during season 1878.



5—Root Harvesting and Keeping in Winter.

We have had a varied experience and considerable experiment in this all valuable work. Having invariably over 20,000 bushels of mangolds and turnips to secure every season, with cellar accommodation for about one half of them, our scheming and planning have of necessity had ample play.

The nature of the crops first demand some notice: As a variety of the beet with its liability to much bleeding, the mangold requires careful handling in the field and house. In all the steps of pulling, topping, carting and housing, or pitting, perfection calls for not a single wound or indentation on the flesh. An awkward grip and pull upon bent, uncouth, or ill-balanced bulbs, will easily break through the middle or part of the root end; an incau-

tious use of the knife on removing the top will open a serious flood; rough handling in cart or waggon will make blemishes that are the cause of after decay and rottenness.

Grip low, pull in line of under part, do not touch the root, top high, and handle as you would eggs. If tops are not over-tough, or branchy, lay aside the knife, and use the hands only, thus: Before pulling, draw up all hanging leaves, which, with laterals, will generally yield easily and break off—then with both hands take hold of the bared neck, draw out, and by a sudden jerk the bulb is separated from the top and part of the neck. Flat branchy heads may need the knife—especially those with cone-shaped leafy matted necks. It is important to remore all leaves, which increase dirt and induce rot in cellar or pit. Harvest when dry and clean, and early enough to avoid frosts below 25°.

Swede turnips seem to be among the things that cannot be damaged; rough and irregular topping with knife or hoe, pulling by hand or harrow, no root cleaning or tailing, and dumped into damp ill-ventilated, or freezing cellars is one way, and such as sends 60 p e cent. to the field or dunghill without the intervention of animal digestion. There is a proper medium in all this.

The winter keep of any fleshy vegetable matter is one more of regulation of temperature, in pit or cellar, than of previous careful handling. Turnips that have been wounded by the harrows, or hoe, will under an *equable temperature*, say of 35°, keep better than those that have been hand pulled, but which are liable to a variation of temperature—from 30° to 50°. Yet the wounded are the first to take disease, and decay sooner than the others; and other considerations in this important question must not be overlooked. Complete maturity in turnip and mangold growth can scarcely be looked for in this country. As it is risky to have any in the open field after October, they have to be removed exactly at the time when the most important swelling of the bulb takes place on the natural decay of the leaves; therefore in our measurements of quantities per acre it is safe to assume that they would on an average be at least *one-fifth* more were maturity attained. This must be remembred in making comparisons with other countries, and is more applicable to the turnips than the mangold. Then again, if a large quantity, say over 20 acres, has to be secured, and labour to correspond cannot be obtained, or is considered too expensive in relation to the extra quantity likely to be had, from cellar or pit, by more careful handling, it is obvious that a more expeditious plan cannot be overlooked. I repeat then that it is not so much a question of field management as of dryness, cleanness, and *one* temperature in the store.

It gives me much pleasure to be able to tell the British farmer that roots can be as safely kept in field-pits here as with him. Our experience is in favour of pitting as against second-class cellars. A dry site, eight inches of straw and twelve of soil, with ventilation, will fend any weather and keep sweet. Ventilation must be ample; drain-tiles wont do, as snow and rain close them up; leaving the top of the pit free of soil, with straw exposed, but covered with a broad plank, lying upon cross-pieces of timber, so as not to press too close on the straw and edgings of soil, is not the best, for high winds blow rain and snow underneath. Box ventilators five feet in length about four inches square inside, with holes all over, and a weather-cap, so as to stand on bottom and reach to 18 inches over apex of pit, are our present models; these at every ten feet will carry off all sweat and gases.

There is no want of favourable opportunities throughout the winter to open pits and take home as required. One week after housing from the open field, turn over all roots with hand, throwing out rotted and decaying ones, and remove dirt and leaves; do this again and again if smell gives indication of decay.

6.—Our Cross Breeds of Cattle with Reference to Beef Production.

It may be thought by many, who overlook the age of this Institution, that it should already be in possession of some important facts with reference to the feeding properties of breeds made by ourselves from those of the original stocks. I have introduced this subject principally with the view of placing on record what we purpose doing in this particular.

What then can be done by us during the next three years, or how much is it desirable should be undertaken? I have elsewhere intimated that we have now made up our

standard herds, with the exception of Devons and Herefords, so that it is open for experimental breeding with:

1. Short Horn, male and female.
2. Hereford, male.
3. Devon, male.
4. Ayrshire, male and female.
5. Angus or Aberdeen Poll, male and female.
6. Galloway, female.
7. Short Horn Grade, female.
8. Canadian, female.

First, note what has been done with crosses of these in Britain:

1. Short Horn bull and Ayrshire cow.
2. " " and Aberdeen Poll.
3. " " and Galloway.

All, taking the weight, early maturing and flesh tendency of the sire; No. 1 not being prominent in quantity of milk, but hardy and good nurses; No. 2 making the heaviest known beef of medium quality, and No. 3 giving superior quality, with hardiness of constitution.

Building then upon the experience of others, and looking to something new, it appears to be within the means of this School to make the following crosses:—

1. Short Horn bull and Ayrshire cow.
2. " " and Aberdeen Poll.
3. " " and Galloway.
4. " " and Grade.
5. " " and Canadian.
6. Hereford " and Grade.
7. " " and Canadian.
8. Devon " and "
9. Ayrshire " and "
10. Aberdeen Poll " and Ayrshire.
11. " " and Grade.
12. " " and Canadian.
13. " " and Galloway.

This is not going round the circle with them, but a choice, judging according to well-known characteristics, and that may likely produce something of value, or more valuable in some points than either of the mated animals possess individually.

Of our own breeding we have already young steers of the following:—

1. Pure-bred Short Horn.
2. Pure-bred Galloway.
3. Short Horn bull and Grade cow.
4. Hereford bull and Grade cow.

It wil be our duty to fatten these and publish the results.

ESTIMATES FOR 1879.

These are:

1. Permanent Improvements	$3,000
2. Experiments	1,000
3. Implements	500
4. Instruction Department	300
5. Garden	500
6. Shop	300
	$5,600

1. *Permanent Improvements* are a continuation of the plan of drainage and fencing, principally.

2. *Experiments*, in view of increased acreage and more wheat production for seed distribution, cannot be undertaken without $400 more than last year.

3. *Implements*, besides several new ones, are meant to cover new harness towards which nothing has been received for four years, and the need is bordering on actual want.

4. *Instruction Department* means simply the purchase of a team of horses, as to which your sanction has already been given.

5. *Garden* should now be placed upon its own merits, independent as much as possible of of the farm.

6. *Shop* should also, as regards new tools, and many odds and ends, be no longer a burden on the farm.

As no actual appropriation is now made towards the maintenance of the farm and live stock, the three last items are indispensable if a balance sheet is expected, and the first three are repetitions needing no further explanations.

General Review.

With an estate extending to 550 acres—making additional yearly pretensions towards a model, it is fair to expect some items of interest, if not of actual value, from among the hundreds in the various departments during the last twelve months. How best to present them, is one of the most difficult things—looking to the class of readers it is desirable to accommodate, and the avoiding of repetition even in a review.

A favourite practice here towards visitors of a certain stamp is to give them a bird's-eye view of the whole from a certain point—to the descriptive let us add the personal examination—time August, allowing for subsequent facts.

South-west over expansive pleasure grounds, clad in wealth of green sward and rich variety of floral and young sylvan beauty, the first cultivated field appears under rank, second-growth clover that is being but half used by a flock of Leicester sheep. The stage in the agricultural round of plant life is the beginning of two years' pastoral rest, but the condition of things does not seem to call for any, as, though nature above and below has been lavish even in this after-growth, it is evident that the good clay loam has been liberally treated by drainage, manuring, and thorough cultivation. England's model sheep is at home in this division—alluvial regulations—where laziness can make rapid progress in small area, and yet be safe for health and a change of bed on the gently sloping ridge that cuts through the east end of it. Note the varieties of the same breed—the light and fine-cut head of the Border Leicester, with the somewhat chunky frame, as against the bolder Roman nose, and more reachy carcase of its Southern rival—blood relations no doubt, but changed by a change of conditions in England and Scotland, and here vieing with each other and the Cotswold, in the maintenance of the best wool, flesh, and the production of the most valuable cross-breeds. Four students, with horse and cart, are dividing the field by hurdles of their own make.

Crossing a strong fence of wire we get into another twenty acres of like pasture, but of much less strength from the lighter and more broken character of the soil, upon which a small but choice flock of South Downs are luxuriating nevertheless. England's favourite mutton, and her best short wool, is evidently not far from home, in the sense of hill and gravelly bank (without the chalk) and being one thousand one hundred feet above sea level. Mereton

blood is now at the head of these, a shearling of rare beauty and quality that left a splendid record behind him.

Another stage southwards, and another step higher on the west, brings us to a large batch of Ireland's choice tuber, several varieties, that have got what they like in sharp warm soil well acquainted with the stable and cattle sheds. The low break of this field would please certain old country sportsmen in partridge season, as well as those who love to calculate on a good turnip bullock in spring, yet, what is itself 90 per cent. of water, has had 50 per cent. too much of it this season, as evidenced by rotten core and small bulb comparatively Drainage being in progress here as a leader to other fields, some half dozen students are assisting in levelling and the cartage of tiles.

Then comes a patch of land, recently from its original crop of timber, and now under a strong one of rape that is being gradually lessened by two score shearling rams of kinds in preparation for sale. The adjoining old grass reach, with feeding troughs and rock salt, tell of high manuring and treatment that some might call "forcing," though the animals have no appearance of it. The shepherd and two students are examining in order to check some foot sore that has been bothering among so much wet.

Still southerly and uphill over the older cultivated pastures of the rotation—now minus its clover—at present untenanted, but marked by "golden feet," we pass eastwards through one of the prettiest pieces of woodland on the property. Few, at home or abroad, are aware of the splendid field almost everywhere on this continent for tree study. What does the Scottish Arboriculture Society, the Kew Garden, or the Edinburgh Arboratum, say to the following list—all indigenous to and found on our own small area?

1. Sugar Maple, *Acer Saccherinum.*
2. Beech, *Fagus Ferruginea.*
3. Blue Beech, *Fagus Cærnia.*
4. Iron Wood, *Carpinus Americanum.*
5. Acacia, *Gleditschia Triacanthus.*
6. Virginian Bird Cherry, *Cerasus Virginian.*
7. Ash. *Fraxinus Florens.*
8. Cedar, *Cupressus Thyoides.*
9. Choke Cherry, *Prunus Borealis.*
10. Elm, *Ulmus Americana.*
11. Balsam, *Abies Balsamea.*
12. Hawthorn (Cockspur), *Cartægus Crusgœli.*
    Also the *Common*, and *Virginian.*
15. Hazel, *Corylus Americana.*
16. Birch, *Betula Papyracea.*
17. Alder, *Alnus Glutinosa.*
18. Butternut, *Juglans Cinerea.*
19. Sumach. *Rhus Glabrum.*
20. Hemlock, *Abies Canadensis.*
21. Hornbeam, (Virginian Hop). *Ostrya Virginica.*
22. Tamarack (Larch), *Larix Americana.*
23. Basswood (Lime), *Tilia Americana.*
24. Soft White Maple, *Acer Eriocarpum.*
26. Balsam Poplar, *Populus Balsamifera.*
27. Trembling Poplar, *Populus Tremula.*
28. White Pine, *Pinus Strobus.*
29. Willows, *three varieties.*
32. Mountain Ash, *Pyrus Americana.*
33. Elder, *Sambucus Canadensis.*
34. Leatherwood, *Dirca Palustrus.*
35. Dog-wood. *Carnus Florida.*
36. Slippery Elm, *Ulmus Fulva.*
37. Black Spruce, *Abies Nigra.*
38. Oak, *Quercus Macrocarpa.*

All fighting for life in a dense mass of all ages and sizes, and yet allowing a good show of wild grasses and white clover here and there.

Clearing this and keeping south-east, through half cultivated land, bearing a great crop of peas just maturing, we come upon a small flock of Oxford Down sheep lording it in a low-lying twenty-acre field of rank timothy that awaits the plough to take turn at legumens, cereals, roots, hay and pasture again, in succession respectively—for science and good practice are still at work over all the estate to recover from previous exhaustion and dirt. This breed of sheep, with its classically associated name, has yet to make one in Canadian experience, but the beginning has been good and already telling well by transmission of blood upon the commoners of the country.

Crossing a highway and through another "Bush," a sight common to the Gloucester yeoman breaks upon us—a handsome flock, in numbers and quality, of the massive Cotswolds, deep to the wool in clover, as the growth of two weeks since the removal of the first three-and-a-half tons per acre. Management, soil, and climate, have combined in defiance of close nibbling and many feet, and accounts for the invitation that has been extended to the yearling heifers and steers from the adjoining swamp pasture. The lord of the Cotswolds is a shearling, imported of Tomb blood that weighs 360 lbs., and took the diploma of the Provincial Exhibition at Toronto. Two of the advanced students are here—watering and to report upon the condition of the young cattle. Before leaving the field, criticize the rather leggy, deep-bodied, full-thighed and arch-backed Shorthorn heifer, "*Louan of Guelph*;" admire the glossy, square and remarkably even Aberdeen Poll, "*Eyebright 2nd*;" question, if you may, the points by the Ayrshire standard, of the massive and beautifully marked "*Model Beauty*," now in her ninth month, and estimate the future of the thoroughbred Durham and Galloway steers in comparison with the grades that accompany them.

Westwards, over the highway, examine the cutting of oats and barley that are almost flat with the ground –the strong and heavy head of the black side oats alongside the branchy white varieties, and the well-filled barley with short straw.

Now north-east, through two fields of spring wheat ready for the reaping machine, and that have been seeded down—do not be deceived by the apparently well-filled head, bearded or bald. Sunshine and showers have made chaff and straw enough, but grain is sadly deficient; toe up the soil to be convinced it is not for want of available food there, is evidenced by a prevailing greasiness, abundance of worms and a veritable matting of clover and timothy, This is one of the temptations to three years haying.

Pass on to another rotation—the one that accumulates the wealth for all others, and find mangolds, turnips and carrots of eighteen kinds. Students are fighting with horse and hand appliances against a perfect sea of June grass (*poa pratensis*). Forty acres of roots will have to be thrice handled by four men and the students, and including all crops that have to be housed ere Winter sets in, there will be a tonnage of 2,625 to their credit.

Another step and the green fodders come under review—from the strong leafy Indian corn, through tares and oats, thousand-headed kale and rape, to the clovers of many varieties. New land all the world round is best for mass of foliage, and so here we find the drainers in their eastward progress have been overtaken by crowding rape and corn to such an extent that within the fortnight they have had to return and clear out the over-grown cuttings.

And now we have reached the standard breeding stock of Short Horns, Herefords, Devons, Ayrshires, Angus or Aberdeen polls, Galloway and grades, that have at present access to two fields—one of clover and another of second year's pasture with a fifteen acre bush in the centre. Judge what two years' change has done upon Her Majesty's Shaw Farm Durham blood, and her Herefords and Devons from Windsor; whether His Grace the Duke of Buccleugh has credit still by Drumlanrig Ayrshires; if the Right Honourable the Earl of Fife and Mr. Hannay may ask for continued commendation in their polls, as well as Mr. Farquharson of Haughton—and what characterises the leading Galloway (Mr. McRae of Guelph) as distinct from the Angus or Aberdeen poll. If you commit the mistake of pointing to a grade cow as the best thoroughbred Short Horn on the ground, which cost $50, and that stands beside one that cost $1,350, you may be consoled by the fact that most visitors have done the same thing; neither need you be surprised at the

difficulty of recognizing a good Canadian cow from some of the Ayrshires. Of all the breeds the Hereford is evidently ahead on *pasture*—their better flesh and handling say so, even though being suckled. The well bred grade is next, followed by Polls, so that altogether in this particular there should be within the next three years ample materials for valuable comparison and national reference. .

Leaving this interesting section, return south-west over fall wheat stubble, and take a rapid inspection of the Instruction plot where six students are being taught to drill for turnips. Criticism is a good thing when accompanied with reason and self knowledge of the particular art or science, so, viewing this department as needing all the spare charity at one's command, it is at the same time open to growth, which experience alone will best supply.

In crossing the old paddock of our establishment towards the experimental plots take a lesson from the manner in which it is sub-divided by portable fencing.

Such a short sketch in such a form as this can give no idea of the 357 distinct kinds of experiments within the ten acre plots set aside for the purpose—whether of various plants, manures or modes of cultivation. How many have entirely failed, and from what cause or causes—which have established any new principles, or solved some definite question affirmatively or negatively ; whether the subject of enquiry was directly economical or speculatively indefinite, or whether the one experiment has suggested another that may result in the overthrow of some darling theory, it is not our present purpose to examine. Assuming, however, that one-tenth of them will stand the test of common sense and sound practice backed by scientific light, it is evident that we have not been idle during our brief existence in the search for more of it. These plots have been sources of much educational value in my hands —well applied or not—at the same time that the increasing public interest in them holds out a future which thirty acres more may not limit. $1,000 a year cannot surely be considered extravagant *now* for these and animal feeding.

Finally, as a visit to the six acre garden would mean a visit to another Model Farm of less size, but more advanced—minus the live stock—and as the Mechanical Department is liable to less variation than any other, permit me to close this report with the assurance that, should the progress that has been made during the last four years be continued for a similar period, the Province of Ontario will be in possession of an Educational Institution having a history favourably known, and efforts practically felt in most other civilized countries. We have already been asked to advise upon the establishment of a similar College in an older part of the world, but with this exception, that the *personal* expense, board, fees, &c., of each student will not exceed $250. I have not heard of any school where as here, the student, by ordinary physical and mental exertions, can have an entirely free education. Let us see that our future is worthy of this, and of further honours.

In Appendix, find inventory and valuation of all the outside Departments.

I have the honour to be, Sir,
Your obedient servant,
Wm. Brown.

The Honourable S. C. Wood,
Commissioner of Agriculture.

Berkshire Sow

ADDENDA.

COTSWOLD RAM.—"*Duke.*" Shearling, bred by E. Tombs, Esq., of Shelton, England, and imported by Snells Sons, of Brampton, Ontario, in 1877, when he took 1st prize at Guelph Central Exhibition, and in 1878 was awarded the Diploma of the Province at the Toronto Exhibition. Though but a shearling, he weighs 360 lbs., is grandly wooled, and has an immense square frame.

OXFORD DOWN RAM.—"*Brassy.*" Three shear, bred by H. A. Brassy, Esq., of Oxford, England; is wide, round, massive, hardy, easily kept, quiet, a good clipper, and good to cross on grade ewes, improving the frame and wool so materially that I trust all interested will call and judge for themselves. Weight, 270 lbs., without grain cake or corn of any sort.

SOUTH DOWN RAM.—"*Walsingham 29.*" Shearling, bred by Lord Walsingham, of Mereton, Norfolk, England. H. Woods, his Lordship's agent, says:—"This ram obtained second prize at the Bath and West of England, and Southern Counties Exhibition at Oxford in June last, when he beat all the best sheep in this country, except one of Lord Walsingham's, which had the first prize. He dates back to Lord Walsingham's prize ram of 1864, and was by his Lordship's second prize Royal Taunton Ram; he is brother to the grand two year old ram which obtained the first prize in the two year old class at the Oxford Exhibition this year, and the first prize at the Royal Bristol Exhibition, and was let for the season to Mr. Fookes for 80 guineas." Weight, 212 lbs., very fine quality, measures fourteen inches between the forelegs, and is very active.

BERKSHIRE SOW.—"*Maid of Shelton.*" Bred by E. Tombs, Esq., of Shelton, England, and imported by Arthur Johnston, Esq., of Pickering, Ontario.

APPENDIX.

INVENTORY AND VALUATION OF OUTSIDE DEPARTMENTS.

Farm—Live Stock.

Horses.

	$ cts.	$ cts.
9 Working horses	1,100 00	
2 Three-year-old colts	300 00	
1 Two-year-old colt	100 00	
		1,500 00

Cattle.

Short Horns :

1 Three-year-old bull	200 00	
1 Bull calf	100 00	
5 Cows	1,500 00	
1 Two-year-old heifer	200 00	
2 One-year-old heifers	300 00	
1 One-year-old steer	50 00	
1 Heifer calf	100 00	
1 Steer Calf	25 00	
		2,475 00

Herefords :

1 Four-year-old bull	400 00	
2 Cows	800 00	
1 Heifer calf	250 00	
		1,450 00

Devons :

1 Three-year-old bull	300 00	
1 Three-year-old heifer	300 00	
		600 00

Aberdeen Polls :

1 Three-year-old bull	200 00	
2 Cows	600 00	
2 Heifer calves	200 00	
2 One-year-old heifer	100 00	
		1,100 00

Galloways :

1 Cow	75 00	
1 One-year-old steer	15 00	
		90 00

Ayrshires :

1 Four-year-old bull	200 00	
3 Cows	600 00	
2 Heifer calves	200 00	
		1,000 00
Carried forward		8,215 00

Brought forward		$8,215 00
Grade Short Horns:		
10 Cows	450 00	
2 Two-year-old heifers	80 00	
3 One " "	90 00	
3 Heifer calves	75 00	
1 Two-year-old steer	50 00	
2 Steer calves	40 00	
		785 00
2 Working oxen		100 00
SHEEP.		
Cotswolds:		
1 shear ram	$175 00	
10 Ram lambs	250 00	
45 Breeding ewes	1,350 00	
24 Ewe lambs	480 00	
		$2,255 00
Leicesters:		
2 Three-shear rams	$150 00	
3 Ram lambs	60 00	
23 Breeding ewes	450 00	
6 Ewe lambs	90 00	
		$650 00
South Downs:		
1 Shearling ram	200 00	
3 Ram lambs	50 00	
14 Breeding ewes	280 00	
8 Ewe lambs	100 00	
		$634 00
Oxford Downs:		
1 Three-shear ram	$100 00	
3 Breeding ewes	150 00	
2 Ewe lambs	40 00	
2 Ram lambs	50 00	
		$340 00
Grade and Feeding:		
7 Grade-breeding ewes	$ 70 00	
5 Fattening ewes	30 00	
1 " wether	10 00	
9 Wether lambs	35 00	
		$145 00
PIGS.		
Berkshires:		
1 Aged Boar	$100 00	
9 " Sows (breeding)	400 00	
6 Small Pigs 2 months old	70 00	
		$570 00
Prince Albert Windsor:		
1 Aged Boar	$50 00	
2 " Sows (breeding)	60 00	
4 Small Pigs	50 00	
		$160 00
Carried forward		13,854 00

Brought forward		$13,854 00

Dogs.

2 Dogs	$50 00	
1 Bitch	30 00	
		80 00
		$13,934 00

Implements.

4 Waggons	$200 00
1 Truck-waggon	50 00
1 Democrat	50 00
2 Carts	65 00
8 Sets of Double-trees	16 00
6 Neck-yokes	6 00
3 Pairs of Bob-sleighs	80 00
1 Long-sleigh	20 00
1 Pleasure-sleigh	40 00
2 Seed Drills	120 00
1 Broad-cast Seeder	60 00
1 Reaper	80 00
2 Mowers	125 00
2 Horse-rakes	40 00
1 Cultivator	20 00
2 Horse-powers	180 00
3 Jacks	50 00
2 Separators	250 00
8 Shafts	30 00
1 Drag Sawing Machine with Saws	25 00
2 Fanning-mills	40 00
1 Circular saw	40 00
Wheel-barrows, Curry-combs, Brushes, Oil-cans, Wrenches, Saws, Hammers	30 00
4 Iron Ploughs	80 00
3 Iron Beam Ploughs	45 00
1 Metal-beam Plough	10 00
1 Wooden plough	16 00
1 Double-mould Board Plough	30 00
2 Gang Ploughs	30 00
1 Sub-soiler	20 00
2 Scufflers	30 00
1 Turnip-drills	12 00
4 Sets of iron harrows	60 00
2 Wooden harrows	12 00
1 Wooden roller	20 00
Shovels, Spades, Forks, Stone-boat	70 00
5 Sets of Team-harness	150 00
6 Sets of Plough-harness	60 00
1 Set of Light harness	30 00
2 Sets of Cart-harness	25 00
1 Barn-truck	4 00
2 Sets of Weighing-scales	40 00
Half-bushel measures, Horse-blankets, Bags, Chains, Picks, Baskets, Scythes, &c	100 00
4 Hay Racks	32 00
Carried forward	2,493 00

	Brought forward	$2,493 00
1	Water-cart	90 00
1	Straw-cutter	30 00
1	Grain-crusher	25 00
1	Cake-crusher	20 00
3	Root slicers and pulpers	80 00
75	Cattle chains	30 00
8	Bull leaders	16 00
2	Feed boilers	8 00
	Sheep racks, troughs, &c	100 00
2	Large Cross cut saws	6 00
1	Vertical 6 H. P. Boiler	200 00
2	Large cross-cut saws	6 00
		3,058 00

GARDEN.

1000	Flower pots	$60 00
3	Rakes	3 00
16	Spades	20 00
12	Shovels	15 00
12	Draw hoes	8 00
5	Dutch hoes	3 00
3	Scythes and snaiths	5 00
2	Garden ploughs	20 00
1	Cultivator	8 00
2	Wheel-barrows	6 00
5	Screens	5 00
3	Trowels	1 20
6	Pruning saws	4 00
4	Manure forks	3 00
3	Potato forks	4 00
2	Garden reels and lines	3 00
3	Tree scrapers	50
5	Hammers	3 00
1	Pair of edging shears	2 00
2	Pair of hedge shears	4 00
6	Watering pots	7 50
1	Pair of pruning shears	3 00
1	Syringe	5 00
2	Pruning knives	2 00
18	Hot-bed lights	40 00
3	Picks	3 50
	Knife, bill, hook, dibble	5 00
1	Set double harness	30 00
1	Set cart harness	8 00
1	Garden cart	40 00
1	Gravel screen	15 00
1	Set garden harrows	10 00
1	Road scraper	5 00
1	Garden roller	10 00
1	Hand cart	3 00
2	Garden sickles	50
1	Mower	40 00
2	Edging knives	2 00
4	Spuds	1 00
	Carried forward	408 20

	Brought forward	$408 20
1	Stove	13 00
4	Potato dusters	1 00
1	Seed drill	7 00
1	Steel square	2 00
	Compass, plyers	1 00
6	Baskets	1 50
3	Thermometers	1 50
10	Marking irons	10 00
2	Axes	3 50
24	Hyacinth glasses	4 00
1	Office desk	2 50
6	Pick handles	1 50
4	Hay rakes	50
3	Markers	75
1	Crow-bar	1 50
4	Hand glasses	4 00
2	Brooms	60
1	Working horse	200 00
1	Hand lawn mower	22 00
1	Single set of harness	14 00
		$700 05

MECHANICAL DEPARTMENT.

6	Hand cross-cut saws	$9 00
4	Rip saws	7 00
3	Fine cross-cut saws	4 75
1	Compass	1 00
3	Draw-knives	3 00
3	Braces	7 50
1	Set of bits	10 00
1	Boring machine	6 00
20	Gimlet bits	2 50
2	Oil-stones	1 25
6	Smoothing-planes	5 40
1	Jointer	2 50
6	Half-jointers	9 00
5	Jack-planes	5 00
1	Iron circular plane	4 50
1	Set hollow and round No. 16	50
1	" match ½ inch	85
1	" " ⅞ "	1 25
1	Centre bead ⅝ inch	75
1	Side bead 1 "	40
1	" ⅜ "	40
1	" ¼ "	40
1	" ⅜ "	40
1	Rabbit plane 1½ inch	1 00
1	" ¾ "	1 00
11	Hammers	10 00
3	Bench axes	4 00
1	Broad axe	3 50
1	Screw wrench	2 00
2	Cold chisels	50
	Carried Forward	$105 35

	Brought forward	$105 35
2	Spoke shaves	1 00
4	Try squares	1 60
2	Framing squares	1 25
1	Panel square	1 25
2	Mallets	40
1	Level	1 25
2	Framing saws	2 50
3	Gauges	90
2	Trowels	1 00
6	Screw drivers	2 40
1	Chalk line	40
1	Common line	1 25
2	Tool bags	80
1	Wire-tightener and apparatus	10 00
1	Bench-brush	40
5	Carpenter's benches	35 00
6	Ladders	6 00
2	Scratchchawls	0 10
4	Paint Brushes	4 00
4	5 Gallon oil-cans, and glue-pot	4 50
3	Gimlets	45
1	Grind-stone	5 00
1	Stove	6 50
	Fencing tools, spade, spar, pick, mauls	10 00
	Block and tackle	12 00
		$212 30

ABSTRACT OF INVENTORY AND VALUATION.

Live stock	$13,934 00
Farm Implements	3,058 00
Garden	700 05
Mechanical	202 30
	$17,894 35

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UNIVERSITY OF TORONTO.

THE BURSAR'S STATEMENTS

OF

CASH TRANSACTIONS,

FOR THE YEAR ENDING THE 30TH JUNE, 1878.

Printed by Order of the Legislative Assembly.

Toronto:
PRINTED BY C. BLACKETT ROBINSON, 5 JORDAN STREET.
1879.

No. 1.—UNIVERSITY OF TORONTO.

The Bursar's Statement of Receipts and Expenditure on account of "The Permanent Fund" (Capital), for the year ending 30th June, 1878:—

RECEIPTS.			EXPENDITURE.		
		$ c.			$ c.
Balance 30th June, 1877		20420 04	Invested in Township of Ellice "Drainage" Debentures, (5 per cent.) in all	$8100 00	
Purchase Money Endowment		7913 41	Part due each year for 15 years	7618 82	
" " Invested Property		1046 80	Counsel fee, opinion as to By-law	20 00	
					7638 82
Debentures Redeemed.					
County of Kent	$500 00		Balance 30th June, 1878		26417 43
" Wellington	1000 00				
" Lambton	2000 00				
Township of Ellice	376 00				
		3876 00			
Amount transferred from Princes' Prize Account		800 00			
		$34056 25			$34056 25

J. E. Berkeley Smith,
Bursar.

Bursar's Office,
Toronto, 1st July, 1878.

No. 2A.—UNIVERSITY OF TORONTO.

The Bursar's Statement of Receipts and Expenditure on account of "The Income Fund," for the year ending 30th June, 1878 :—

RECEIPTS.	$ c.	EXPENDITURE.	$ c.
Interest on Purchase Money—Endowment	2843 21	Balance 30th June, 1877	42473 77
" " Invested Property	341 52	Appropriation for expenditure for year as per O. C., transferred to Statement No. 2 B.	54000 00
" on Debentures, less express charges on Coupons, &c., &c.	48573 37	Port Hope Sales.	
" on Loans	585 00	T. M. Benson, 2½ per cent. Commission on Sales of Port Hope property	14 13
" on Bank Balances	835 90	Belleville Sales.	
Dividend on Bank Stock	28 00	Evans & Bolger, 2½ per cent. Commission on Sales of Belleville property	5 37
Rent	1105 53		
" University Park Lots	5374 50		
	59687 03		
Balance 30th June, 1878	36806 24		
	$96493 27		$96493 27

J. E. Berkeley Smith,
Bursar.

Bursar's Office,
Toronto, 1st July, 1878.

No. 3.—UNIVERSITY OF TORONTO.

THE BURSAR'S STATEMENT of Receipts and Appropriations, &c., on account of "Moneys in Deposit," for year ending 30th June, 1878.

RECEIPTS.		APPROPRIATIONS, &c.	
	$ c.		$ c.
Balance 30th June, 1877	66 00	Balance 30th June, 1878	118 00
Amount received and placed in "Deposit".....	52 00		
	$118 00		$118 00

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 4.—UNIVERSITY OF TORONTO.

'PORT HOPE APPROPRIATION.'

Balance as per Statement to 30th June, 1877..... ....Cr. $2078 06

No. 5.—UNIVERSITY OF TORONTO.

'SURPLUS INCOME FUND."

Balance as per Statement to 30th June, 1877.....Cr. $23247 53

No. 6.—UNIVERSITY OF TORONTO.

PRINCE'S PRIZE FUND.

Balance as per Statement to 30th June, 1877..... ....Cr. $800 00

Balance carried to Statement No. 1, "Permanent Fund," 30th June, 1878 .....Cr. $800 0

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 7.—UNIVERSITY OF TORONTO.

THE BURSAR'S STATEMENT of Receipts and Expenditure on account of "The Prince's Prize Income Fund," for year ending 30th June, 1878.

RECEIPTS.		EXPENDITURE.	
	$ c.		$ c.
Balance 30th June, 1877	7 82	J. E. Ellis & Co.,	
Interest on Debenture	54 00	Silver Inkstand for Prize	50 00
		Balance 30th June, 1878	11 82
	$61 82		$61 82

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 8.—UNIVERSITY OF TORONTO.

THE BURSAR'S STATEMENT of Receipts and Expenditure on account of the "Starr Bequest," for the year ending 30th June, 1878.

RECEIPTS.		EXPENDITURE.	
	$ c.		$ c.
Balance 30th June, 1877	595 91	Rowsell & Hutchison,—	
Rent of "Starr" Farm	100 00	"Starr" Medals	30 17
		Rolph, Smith & Co.,	
		Engraving Medals	2 25
		Balance 30th June, 1878	663 49
	$695 91		$695 91

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 9.—UNIVERSITY OF TORONTO.

THE BURSAR'S STATEMENT of Receipts and Expenditure on account of "The Blake" Scholarship, for year ending 30th June, 1878.

RECEIPTS.		EXPENDITURE.	
	$ c.		$ c.
Amount received from The Honourable Edward Blake, to endow a Scholarship	1250 00	Balance 30th June, 1878	1250 00

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 10.—UNIVERSITY OF TORONTO.

STATEMENT of Cash Balances at 30th June, 1878.

ACCOUNTS.	DR.	CR.
	$ c.	$ c.
Cash in hand	1344 83	
" Bank of Commerce	20570 02	
Income Fund	36869 24	
" Appropriation		4934 76
Permanent Fund		26480 00
Surplus Income Fund		23247 53
Deposits		118 00
Starr Bequest		663 49
Port Hope Appropriation		2078 06
Prince's Prize (Income)		11 82
Blake Scholarship		1250 00
	$58784 09	$58784 09

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 2B.—UNIVERSITY OF TORONTO.

THE BURSAR'S STATEMENT of Receipts and Expenditure on account of "The Income Appropriation," for the year ending 30th June, 1878.

RECEIPTS.	$ c.	TO WHOM PAID.	SERVICE.	$ c.	$ c.	$ c.	University. $ c.	Univ. College. $ c.
			BURSAR'S OFFICE.					
			Salaries, &c.					
Appropriation from "Income Fund," for annual expenditure as per O. C.	54000 00							
Fees, University	2199 00	David Buchan	Bursar, Salary from 1st July, 1877, to 17th October, at $2400 per annum	704 32				
" University College	2010 00	J. E. Berkeley Smith	Accountant, 5 months' salary, at $1400	$466 66				
		" "	Bursar, 7 months' salary, at $2000	1333 34				
Fees for Deeds, Transfers, &c. $80 50				1800 00				
Paid Morrison, Wells & Gordon, approving Deeds 35 53		Thos. Wilson	Messenger, 12 months' wages at $33 per month	396 00				
	44 97				2900 32			
			Gratuity.					
		Thos. Wilson	Gratuity allowed him by O. C. on his services being dispensed with		200 00			
			Rent.					
		U. C. College	12 months' rent of office building		400 00			
			Stationery.					
		Willing & Williamson	Stationery	33 65				
		Copp, Clark & Co	Paper, $30.50; Portfolios, $5	35 50				
		Perry, Sandford & Co.	Pens	7 00				
					76 15			
			Fuel.					
		C. A. Morse	Coal	$62 00				
		A. & S. Nairn	"	5 56				
		T. Bell	"	2 90				
				70 40				
		T. Wilson	Pine Wood, and Cutting	5 50				
					75 90			
			Incidentals, B. O.					
		Water Works	Water supply, 12 months	18 34				
Carried forward	58253 97		*Carried forward*	18 34	3652 37			

No. 2B.—*Continued.*

RECEIPTS.		TO WHOM PAID.	SERVICE.				University.	Univ. College.
	$ c.			$ c.	$ c.	$ c.	$ c.	$ c.
Brought forward	58253 97		*Brought forward*	....	3652 37			
			BURSAR'S OFFICE—*Continued.*					
			Incidentals—Continued. *Forward*	18 34				
		Gas Consumers' Co.	Gas rent	1 00				
		Postage, $10.72; Rent of Box, $1.50	Postage	12 22				
		A. Gianella	Repairing windows	1 15				
		W. Burns & Co.	Ice	3 75				
		R. Emery	Disinfectant	1 00				
		N. H. Sparrow.....	Rat trap..	0 50				
		J. Hathaway.....	Repairs, removing storm sashes, tree boxes	12 75				
		J. T. Wilson	Putting up, removing stoves, etc.....	5 30				
		Monetary Times	Subscription	2 00				
		Ontario Gazette	"	4 00				
		C. Moore	Sweeping flues	1 00				
		Thomas Wilson (Messenger).	Brooms, dusters, etc.	4 65				
		Telegram	As to lot 23, 9 Charlotteville	1 22				
		Cab hire	Bursar on business	1 00				
					69 88			
			Less received from U. C. College.					
					3722 25			
			Share of expenses of Bursar's department	.....	930 73			
						2791 52		
			Law Costs.					
		Morrison, Wells & Gordon..	Approving deeds, etc. ..... $35 53 Deducted from receipts.					
			Incidentals (General.)					
		D. R. Dickson.....	Inspecting and reporting as to value of lot in Blenheim.	.....	6 25			
		H. J. & W. A. Browne	Tracings of plans of blocks in Hallowell	12 00				
		Registrar, County of Prince Edward...	Registration fees of above plans....	3 00				
					15 00			
		Telegram.....	As to sale of lots in Charlotteville.....	0 86				
		Expenses of Bursar	Attending auction at "	11 00				
					11 86			
		Bursar	Cab hire on office business	.....	2 50			
						35 61		

		Stationery (General).					
Copp, Clark & Co.....	Journal	.....	.....	12 00			
	Insurances.						
Scottish Commercial Insurance Company	On University Building and Contents	.....	225 00				
Royal Insurance Company..	" " "	.....	250 00				
Phœnix " "	" " "	....	200 00				
Canadian Steam Users' Co..	On Boilers and Boiler House	.. .. ..	40 00				
				715 00			
	Salaries &c., University.						
Hon. Thos. Moss, M.A. ...	Vice-Chancellor, 12 Months' Salary	400 00					
W. G. Falconbridge, M.A..	Registrar, " "	750 00					
W. H. VanderSmissen, M.A.	Librarian, " "	1000 00					
Alexander Brown	Attendant on Library and overseer of Grounds, 12 Months' Salary	800 00					
Robert McKim	Bedel, 12 Months' Salary	100 00					
Arch. Pride	Sub-Curator Museum " "	480 00					
Thos. Eversfield.....	Engineer, " " (University part)	120 00					
			3650 00	.....	3650 00		
	Salaries, University College.						
Rev. John McCaul, LL.D..	President and Professor of Classical Literature, 12 Months' Salary	4200 00					
H. H. Croft, D.C.L.	Professor of Chemistry, &c., 12 Months' Salary .	2800 00					
Daniel Wilson, LL.D.	" History, &c., " " .	2800 00					
E. J. Chapman, Ph. D.	" Geology, &c., " " ..	2800 00					
Revd. Geo. Paxton Young, M.A...	" Metaphysics, &c., " " ..	2800 00					
R. Ramsay Wright, M.A....	" Nat. History, &c., " " ..	2712 50					
James Loudon, M.A	" Nat. Philosophy, &c. " " ..	2500 00					
George Buckland	" Agriculture, " " ..	600 00					
J. M. Hirschfelder	Lecturer on Oriental Literature, " " ..	1500 00					
Emile Pernet.....	" French, " " ..	1000 00					
W. Oldwright, M.A., M.D.	" Spanish and Italian, " " ..	500 00					
W. H. VanderSmissen, M.A.	" German, " " ..	750 00					
W. D. Pearman, M.A	Classical Tutor, 12 months' salary $1126 00						
"	Dean of Residence, " $600 00						
"	Allowed for Fuel 100 00						
		700 00					
		1826 00					
Alfred Baker, M.A	Mathematical Tutor, 12 months' salary.. $1000 00						
"	Registrar, University College, " .. 400 00						
		1400 00					
			28188 50	....	.....	28188 50	
Carried forward 58253 97							
	Carried forward	....	....	3554 13	3650 00	28188 50	

No. 2B—*Continued.*

RECEIPTS.		TO WHOM PAID.	SERVICE.				University.	Univ. College.
	$ c.			$ c.	$ c.	$ c.	$ c.	$ c.
Brought forward	58253 97		*Brought forward*	....	31838 50	3554 13	3650 00	28188 50
			BURSAR'S OFFICE—*Continued.*					
			Salaries, &c., University College—Continued.					
		Robert McKim	Bedel, 12 months' wages	$510 00				
			" allowance by Council	40 00				
					550 00			
		D. Sturgeon	Servant, 12 months' wages		420 00			
		Peter Miller	" "		210 00			
		R. H. Bullen	" "		450 00			
		John Hare	" "		420 00			
		J. Durance	" "		390 00			
		Thos. Eversfield	Engineer, " (College Share)		360 00			
		Eliz. King	Cleaner of Lecture Rooms		108 00			
					2908 00			
			Pension.			34746 50	.....	2908 00
		B. Fitzpatrick	12 months' Pension			96 00	96 00	
			Fuel.					
		P. Burns	Coal; amount of account		1351 14			
		A. Brown	To pay P. Burns, 2 Cords Wood		9 00			
						1360 14	316 29	1043 85
			Gas and Water.					
		Alex. Brown	To pay Gas accounts		56 24	.....	19 67	36 57
		W. Sparrow	Lighting Building at Conversazione		70 00	... ..	.....	70 00
		Alex. Brown	Water Supply (to pay City)	116 67				
		Water Commissioners (City)	" "	14 07				
					130 74	256 98	30 57	100 17
			Prizes and Medals.					
		Rowsell & Hutchison	Medals		215 35	.....	215 35	
		" "	Prizes		317 50	.....	.. ....	317 50
		Rolph, Smith & Co.	Engraving Medals		28 00	560 85	28 00	
			Scholarships					
		W. Fletcher	Scholarship allowance, 1877-78.		120 00			
		J. Crerar	" "		120 00			

	W. Cross	Scholarship allowances, 1877-8		120 00				
	H. S. Griffin	" "		120 00				
	W. T. Herridge	" "		120 00				
	A. Carruthers	" "		80 00				
	W. J. Loudon	" "		160 00				
	T. H. Gilmour	" "		40 00				
	R. Y. Thomson	" "		160 00				
	J. Ferguson	" "		120 00				
	J. B. Tyrrell	" "		60 00				
	A. S. Lown	" "		40 00				
	J. W. Elliot	" "		160 00				
	J. A. Culham	" "		80 00				
	W. J. R. McMinn	" "		120 00				
	J. W. Patterson	" "		120 00				
	J. D. Cameron	" "		240 00				
	R. S. Casssls	" "		80 00				
	J. Chisholm	" "		80 00				
	J. P. McMurrich	" "		60 00				
	S. C. Smoke	" "		120 00				
	J. H. Farmer	" "		80 00				
	F. E. Hayter	" "		120 00				
	J. H. M. Campbell	" "		80 00				
	C. Millar	" "		120 00				
	D. R. Keys	" "		120 00				
	H. Nason	" "		120 00				
	M. McGregor	" "		120 00				
	A. J. Bell	" "		120 00				
	J. M. Hunter	" "		80 00				
	G. S. Bingham	" "		120 00				
	F. W. Jarvis	" "		150 00				
	S. F. Passmore	" "		100 00				
	A. W. Reid	" "		150 00				
	P. Strang	" "		100 00				
	H. St. Q. Cayley	" "		120 00				
	D. B. Kerr	" "		75 00				
	W. S. Milner	" "		50 00				
	J. M. Levan	" "		25 00				
	J. W. Reid	" "		25 00				
	J. Adair	" "		120 00				
						4315 00	4315 00	
		Examiners.						
	Dr. W. G. Wagner	Fee as Examiner, 1877, $20. Do. 1878, $80		100 00				
	W. D. Pearman, M.A.	" " " 80 " " 80		160 00				
	Samuel Woods, M.A	" " " 80 and Travel'g Ex. $10	90 00					
	"	" " 1878, 80 " 40	120 00					
				210 00				
	Goodwin Gibson, M.A	" 1877,		10 00				
	J. E. Lees, B.A	" " " $15. Do. 1878, $15		30 00				
				510 00	44889 60	8670 88	32664 59	
Carried forward	58253 97	*Carried forward*						

No. 2B—*Continued.*

RECEIPTS.		TO WHOM PAID.	SERVICE.				Uni-versity.	Univ. College.
	$ c.			$ c.	$ c.	$ c.	$ c.	$ c.
Brought forward. ...	58253 97		*Brought forward*	.....	510 00	44889 60	8670 88	32664 59
			BURSAR'S OFFICE—*Continued.* *Examiners—Continued.*					
		Alfred Baker, M.A... ...	Fee as Examiner, 1877,....	.....	80 00			
		Edgar Fisby, M.A..	" " "	.....	80 00			
		J. M. Buchan, M.A.	" " " $60 and Travel'g Ex. $15	.....	75 00			
		W. Houston, M.A.....	" " " 60. Do. 1878, $80	.....	140 00			
		A. B. Aylesworth, M.A....	" " "		60 00			
		Ed. Furrer	" " "		10 00			
		W. G. T. Albertsberg, LL.D.	" " "	.....	20 00			
		W. H. VanderSmissen, M.A	" " " $20. Do. 1878, $60. Travelling Expenses, $10	.....	90 00			
		H. J. Scott.....	" " " $20. Do. 1878, $80	.....	100 00			
		John Idington, M.A., Q.C.	" " 1878, 60. Travel'g Expenses, $5	.....	65 00			
		George Kennedy, LL.D.	" " " 60	.....	60 00			
		Dr. C. Y. Moore	" " " 60. Travelling Ex. $15	.....	75 00			
		Dr. A. Beith	" " " 60. Do.....$15	.....	75 00			
		Dr. W. Forrest	Fee as Examiner, 1878, $60. Travelling Expenses $5	.....	65 00			
		Dr. R. A. Reeve	Fee as Examiner, 1878	.....	80 00			
		Dr. W. H. Ellis	" " "	.....	80 00			
		T. Macbeth, B.A..... ..	" " " $80. Travelling Expenses $35	.....	115 00			
		Chas. Carpinael, M.A.....	" " "	.....	80 00			
		E. G. Patterson, M.A	" " " $80. Travelling Expenses $20	.....	120 00			
		W. E. Perdue, M.A	" " "	.....	15 00			
		J. H. Long, M.A.....	" " " $80. Travelling Expenses $20	.....	100 00			
		Rev. J. Roy, M.A.	" " " $80. " " $60	.....	140 00			
		Professor Chapman	" " "	.....	60 00			
		Rev. J. Campbell.....	" " " $80. Travelling Expenses $40	.....	120 00			
		Rev. George Burnfield	" " " $40. " " $10	.....	50 00			
		Professor Kingston	" " "	... .	20 00			
		J. Galbraith, M.A.	" " " $20. Travelling Expenses $5	.....	25 00			
		F. W. Kerr, M.A	" " " Toronto $80, at Woodstock $26.....	106 00				
		" " "	" " " Travelling Expenses	16 00	122 00			
		J. B. Rankin, B.A	" " "	.....	8 00			
		F. R. Beattie.....	" " (special) University College, 1877	20 00				
		" "	" " (special) do 1878	20 00	40 00			
						2680 00	2640 00	40 00

		Library.					
Willing & Williamson	Books		54 41				
Rowsell & Hutchison	Stationery $1.38. Printing tickets $60. Book $2.10		63 48				
E. G. Allen, (London)	Books, Periodicals, &c.		694 71				
W. H. VanderSmissen, M.A	Petty disbursements, "Library," per order of Vice-Chancellor		40 00				
Brown Bros	Binding Books		151 10				
A. E. Foote	Books		19 00				
James Campbell & Son	Books		19 04				
W. Wood & Co	Medical Cyclopœdia		29 48				
A. Piddington	Books		6 30				
J. Vannevar	Books		8 05				
Bost. Society of Nat. Hist	Proceedings, Vol. 19		2 92				
Acad'y of Nat. Science, Phila	" 1877		4 90				
American Association for advancement of Science	" Vol. 14—25 inclusive		18 00				
Canadian Antiquarian Journal	Subscription, 2 years to July, 1878		3 00				
				1114 39	1114 39		
	Stationery, Printing, &c.						
James Bain & Son	Stationery and Book-post wrappers		11 50		7 00	4 50	
Rowsell & Hutchison	" $83.04 and printing $524.38		607 42		607 42		
" "	Books for use in examinations, University College		18 45			18 45	
" "	Books to use as above $10.76. Examination papers $69.30. Stationery $59.90		139 96			139 96	
" "	Books to use as above $170.23. Postage and Stationery $117.19		287 42			287 42	
" "	Stationery $180.14. Printing $50		230 14			230 14	
Hart & Rawlinson	Printing		1 50			1 50	
Might & Taylor	City Directory		2 50			2 50	
Rolph, Smith & Co	Testamurs on Parchment		75 00		75 00		
" "	Printing Cards, &c		11 00		11 00		
				1384 89			
	Construction and Outfit.						
W. H. Sparrow	Brooms, Scuttle, &c		31 55			31 55	
George Harding	Gas fittings and steam fittings		43 01			43 01	
Farley & Oliver	Toilet Set		6 00			6 00	
R. Hay & Co	Specimen box	7 50				7 50	
"	100 Chairs	62 00			31 00	31 00	
"	One Screen	13 50				13 50	
			83 00				
H. Graham & Co	Rug		1 75			1 75	
J. Kay	Towels		5 50			5 50	
J. Samo	100 Desks		200 00		100 00	100 00	
Hugh Downey	Lumber		6 19			6 19	
Carried forward			377 00	50068 88	13256 69	33635 06	
Carried forward				58253 97			

No. 2B—*Continued.*

RECEIPTS.		TO WHOM PAID.	SERVICE.				University.	Univ. College.
				$ c.	$ c.	$ c.	$ c.	$ c.
Brought forward	58253 97		*Brought forward*		377 00	50068 88	13256 69	33635 06
			BURSAR'S OFFICE—*Continued.*					
			Construction and Outfit—Continued.					
		Hartnach & Prazmowski, Paris	Microscopes $80 51					
			Less returned by Dr. McCaul for two, for himself 59 29					
					21 22			21 22
		W. Gordon	Rug		1 00			1 00
		Alex. Brown	To pay H. Graham's account for Cocoa Matting, for Reading-room		60 84		60 84	
						460 06		
			Grounds and Labour.					
		Alex. Brown, Overseer	To pay for Labour		839 06		783 62	55 44
		George Hare	Labour on Grounds		90 00			90 00
		George Goodwin	"		31 25			31 25
		Mrs. C. Fair	Scrubbing		57 00		5 00	52 00
		J. Milligan	Removing Nuisance, $12. Labour on Quad. and Terraces $83 00					
				95 00				
		"	Cleaning, $15. Labour on Quad. and Terraces, $30. Removing Nuisance $25 00					
				70 00				
		"	Labour on Quadrangle and Terraces	67 00				
		"	Cleaning	15 00				
					247 00			247 00
		J. Durance	Labour on Cricket Ground		25 00			25 00
		L. A. Morrison	Lawn Sprinklers		8 00		8 00	
		E. Terry	Fire Bricks, Engineer's Department		26 00		26 00	
		W. J. McGuire	Hose		24 60		24 60	
						1347 91		
			Repairs.					
		Alex. Brown, Overseer	To pay J. McCausland, Repairing Enamelled Windows	6 25			5 70	55
		" "	To pay E. Galley, Tile Floor, $3.50. E. Terry, Fire Clay, $4. R. Bell, Windows $11 30				10 00	8 80
				18 80				
		" "	To pay G. Harding, Steam Apparatus	45 16			23 02	22 14

Alex. Brown, Overseer	To pay Scott & Phillips Hose Coupling	1 25			63	62
" "	" H. Pim, Bolts, Chisels, Keys, &c	7 95			3 98	3 97
" "	" R. Bell, Repairing Windows, Convocation Hall and Basement	31 88			19 29	12 59
" "	" George Harding, Repairs to Steam Fittings	2 10			1 05	1 05
			113 39			
E. Stephenson & Co	Carpenters' and Tinsmiths' Work, &c		51 69			51 69
R. Rennie	Slater, Repairing Roof		46 95			46 95
Geo. Harding	Plumber, Repairing Laboratory $16 21					
	" " Steam Heating Appar. 40 49					
			56 70		40 49	16 21
E. M. Morphy	Repairs and Attendance on Clocks		16 75			16 75
R. Bell	Glazing, $6.15. Whitewashing Engineer's Department.. $7 82					
			13 97			13 97
E. Merrett	Whitewashing, Paper, &c., Engineer's Departme't		17 67			17 67
J. McCausland	Repairs to Windows, done in 1876, payment specially authorized by College Council		38 45			38 45
				355 57		
	Advertising.					
The Leader	Amount of Accounts		45 00		32 00	13 00
" Mail	" "	12 50				12 50
" Mail	" "	38 50			38 50	
			51 00			
" Globe	" "	26 70			14 00	12 70
" Globe	" "	29 00			29 00	
			55 70			
" Evening Telegram	" "		15 50			15 50
" National	" "	26 50			26 50	
" National	" "	4 00				4 00
			30 50			
" Weekly Advertiser	" "		8 00		8 00	
" School Journal	" "		2 00			2 00
Alexander Brown	" " "Mail," Tenders for Coal	2 50			75	2 25
"	" " "Globe," do	3 00	5 50	213 20	63	1 87
	Museum.					
E. Hooper & Co	Chemicals		47 89			
J. Wright & Co	"		17 64			
Prof. R. Ramsay Wright	To defray petty disbursements		20 00	85 53	85 53	
	Incidentals.					
George Frost	Attendance on Senate meetings		40 00		40 00	
W. Fitzgerald	Scrutineer at election of Senate	10 00				
Carried forward		10 00	40 00	52531 15	14543 82	34473 20

Carried forward	58253 97

No. 2B—*Concluded.*

RECEIPTS.	$ c.	TO WHOM PAID.	SERVICE.	$ c.	$ c.	$ c.	University. $ c.	Univ. College. $ c.
Brought forward	58253 97		*Brought forward*	10 00	40 00	52531 15	14543 82	34473 20
			Incidentals—Continued.					
		W. T. Boyd	Scrutineer at Election of Senate	10 00	20 00		20 00	
		R. Carswell	Engraving Diploma and Parchment		2 00		2 00	
		A. Brown, overseer	To pay Aikenhead & Crombie, Coal Shovels $8.05. E. M. Morphy, attendance on clocks $8.25.					
		" "	To pay Brown Bros., Diary 60c. C. T. Whatmough, Oil, Tallow, &c $16 86					
				30 76			22 60	8 16
		" "	To pay C. T. Whatmough, Oil, Tallow, &c, $5.61.					
		" "	H. Pine—Work—Museum $24 87					
				30 48			27 67	2 81
		" "	To pay J. Kay, Crape, Ribbon and Gloves	3 09			3 09	
		" "	To pay Aikenhead & Crombie, Twine, Sea Line, &c. $4.70. C. T. Whatmough, Oil, &c. $4.28	8 98			4 49	4 49
					73 31			
		E. F. Austin	Wool Dusters		1 00			1 00
		Rolph, Smith & Co	Labels		10 00			10 00
		E. Hooper & Co	Chemicals, University College		28 50			28 50
		M. Turnbull	Altering and repairing Microscope for use of Students		6 75			6 75
		Prof. Croft	Towels		1 35			1 35
		W. S. Robinson	Chemicals		12 50			12 50
		W. H. Thorold	Gas Burners		4 75			4 75
		W. G. Falconbridge, Registrar	Postage $27.25. Cab Hire $2.50. Telegrams 50c. Gas bill $2.90. Sundries 37c.					
					33 52		33 52	
		Grand Trunk Railway	Carriage, &c., box of Microscopes from Paris		8 98			8 98
		W. Gordon	Glass Polish		0 75			0 75
		Rev. W. Burnhill, B.D.	Framed Photograph of Rome		40 00			40 00
		Might & Taylor	City Directory		2 50			2 50
		W. Burke	Lumber		2 15	288 06		2 15
			School of Practical Science			52819 21		
		Prof. Loudon	To cover expenses to England and France to purchase Scientific Instruments			500 00		
			Balance 29th June, 1878			4934 76		
	58253 97					58253 97	14657 19	34607 89

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

J. E. BERKELEY SMITH, *Bursar.*

UPPER CANADA COLLEGE.

THE BURSAR'S STATEMENTS

OF

CASH TRANSACTIONS,

FOR THE YEAR ENDING THE 30TH JUNE, 1878.

Printed by Order of the Legislative Assembly.

Toronto:
PRINTED BY C. BLACKETT ROBINSON, 5 JORDAN STREET.
1879.

No. 1.—UPPER CANADA COLLEGE.

THE BURSAR'S STATEMENT of Receipts and Expenditure on account of the "Permanent Fund," (capital) for the year ending 30th June, 1878.

RECEIPTS.		EXPENDITURE.	
	$ c.		$ c.
Balance 30th June, 1877	5551 06	Balance 30th June, 1878	8575 86
Purchase Money (Endowment)	2992 75		
Purchase Money (Invested Property) ..	32 05		
	8575 86		8575 86

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 2A.—UPPER CANADA COLLEGE.

THE BURSAR'S STATEMENT of Receipts and Expenditure on account of the "Income Fund," for the year ending 30th June, 1878.

RECEIPTS.		EXPENDITURE.	
	$ c.		$ c.
Interest on Purchase Money	1323 32	Balance 30th June, 1877.....	4208 72
" " Loans	120 00	Appropriation for Annual Expenditure as per O. C.....	12500 00
" " Debentures	13285 34	Ten per cent. of Tuition Fees: Received during the year paid to the Principal U. C. College (as per	
" " Bank Balances..	533 38	O. C.) ....$1042 00 Also short paid last year .. 50 00	1092 00
Rent.....	462 40		
	15724 44	Rent Master's Houses while repairs in progress: W. Wedd, $125; E. Furrer,	
Balance 30th June, 1878	2276 28	$75; per Res. of Senate..	200 00
	18000 72		18000 72

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 2 B.—UPPER CANADA COLLEGE.

THE BURSAR'S STATEMENT of Receipts and Expenditure on Account of "The Income Appropriation' for the Year ending 30th June, 1878.

RECEIPTS.	$ c.	TO WHOM PAID.	SERVICE.	$ c.	$ c.	$ c.
			BURSAR'S OFFICE.			
Balance 30th June, 1877	3400 86	University of Toronto	Share of expense of B.O			930 73
			Insurance.			
Appropriation from Income Fund (No. 2 A) for Annual Expenditure as per O. C. 1865	12500 00	Western Assurance Co'y,	On West Master's Houses...$12000		60 00	
		"	" East " $12000	60 00		
Tuition fees	10425 75	"	" Carpenter's Risk...$48			
			Less refund...$2	46 00		
					106 00	
Transfer fees, Deeds, &c... $43 99		"	" Gymnasium		12 50	
Law Costs returned... 60		Phœnix	" College Buildings...$12500	75 00		
	44 59		Less refund (unearned premium on old Policy)	22 05		
				52 95		
Paid Morrison, Wells, & Gordon, Fees approving deeds, &c... $23 52	21 07	"	" Carpenters' Risk	29 50		
					82 45	
		Scottish Commercial "	" College Buildings account...$12500	75 00		
		"	" Carpenters' Risk	37 50		
					112 50	
		"	" Building of Bursar's Office, 3 years ..$2000		20 00	
						393 45
			Pensions.			
		F. W. Barron, M.A.	12 months' Pension		1000 00	
		Rev. Geo. Maynard, M.A.,	"		300 00	
						1300 00
			Salaries, &c.			
		Geo. R. R. Cockburn, M.A.,	Principal, 12 months' salary	2400 00		
		"	Share of Tuition Fees	354 99		
		"	Gratuity to make up former deductions from Salary as per Resolution of Senate	681 86		
					3436 85	
		W. Wedd, M.A.,	1st Classical Master, 12 months' Salary	1335 99		
		"	Share of Tuition Fees	354 99		

	"	Gratuity, per Resolution of Senate to make up former deductions from Salary	379 52	2070 50	
	James Brown, M.A	Mathematical Master, 12 months' salary	1335 99		
	"	Share of Tuition Fees	354 99		
	"	Gratuity, per Res. of Senate, to make up former deductions from Salary	379 52	2070 50	
	John Martland, M.A	2nd Classical Master, 12 months' salary	1335 99		
	"	Share of Tuition Fees	354 99		
	"	Gratuity as above	274 17	1965 15	
	Dr. M. Barrett	1st English Master, &c., 12 months' salary	1100 00		
	"	Share of Tuition Fees	354 99		
	"	Gratuity as above	170 46	1625 45	
	C. J. Thompson	2nd English Master, 12 months' salary	800 00		
	"	Share of Tuition Fees	354 99		
	"	Gratuity as above	170 46	1325 45	
	Edward Furrer	French and German Master, 12 month's salary.	1000 00		
	"	Share of Tuition Fees	354 99	1354 99	
	George B. Sparling	Assist. Mathematical Master, 12 months' salary.		1200 00	
	Thomas Wicher	Assist. English Master, 3 months' salary	175 00		
	T. H. Redditt	" " 9 "	525 00	700 00	
	W. S. S. Jackson	" " 12 "		800 00	
	W. Steward	Gymnastic instructor		15 00	
	Henry Brock	Assistant Master (temporary) to 30th June		67 00	
	George Frost	Janitor, 12 months' salary		360 00	16990 89
		Prizes.			
	James Thin	Prize books		196 00	
	W. F. Switzer	Carriage and duty, etc., on ditto		10 75	
	Rowsell & Hutchison	Prize books		8 15	214 90
		Fuel.			
	P. Burns	Coal and wood			347 06
		Advertising, &c.			
	Scotsman	Amount of accounts		15 30	
	Evening Telegram	" "		48 00	
	Globe	" "		54 00	
	Mail	" "		24 85	142 15
Forward	26347 68	*Forward*			20319 18

No. 2 B.—UPPER CANADA COLLEGE—*Continued.*

RECEIPTS.		TO WHOM PAID.	SERVICE.	$ c.	$ c.	$ c.
Brought forward	26347 68		*Brought forward*			20319 18
			Examiners.			
		W. H. VanderSmissen, M.A.	Examiner in Modern Languages		30 00	
		Alfred Baker, M.A.	" " Mathematics		20 00	
		Charles J. Logan	" " Classics		20 00	
		Professor Croft	" " Chemistry		10 00	
		Dr. Aikins	" " Physiology		10 00	
						90 00
			Exhibitions.			
		E. P. Davis	1st Exhibitioner		80 00	
		G. S. Wilgress	" "		80 00	
		T. Parker	2nd "		40 00	
		H. H. Langton	" "		40 00	
		E. F. Langstaff	" " 1876-7		30 00	
						270 00
			Stationery, &c.			
		Copp, Clark & Co	Journal		12 00	
		Hart & Rawlinson	Stationery		167 49	
		James Campbell & Son	Paper		104 00	
		Woodward, Grant & Co	Cheques	4 00		
		" " "	"	30 00		
					34 00	
		Dudley & Burns	Printing Cards		8 00	
		Willing & Williamson	Stationery		11 73	
		Rowsell & Hutchison	Roll of Merit		8 00	
		Globe Printing Company	Printing	29 00		
		" "	"	55 80		
					84 80	
						430 02
			Grounds and Labour.			
		Balmer & Douglas	Tiles		6 00	
		J. Croty	Cartage and Labour		37 15	
		W. Dougherty	Sodding		284 00	
		A. W. Godson	Gravel		35 70	
		Geo. Leslie & Sons	Trees		11 25	
		Jas. Rock	Labour of self and others		612 54	
		R. West	Levelling		82 12	
						1068 76

		Repairs, &c.			
G. Clements	Coal Sheds, Urinals, &c		350 00		
"	Platform	50 00			
"	Sheds	30 00			
			80 00		
W. Booth	Carpenter's Work, &c		4 25		
Cuming & Wells	Plumber's work, &c		126 23		
F. H. Walker	Carpenter's work		137 59		
M. O'Connor	Painting		40 25		
J. H. Fleherty	Plumber, &c		13 25		
J. L. Bronsdon & Co'y	Paints, Oil, &c		18 49		
					770 06
	Outfit.				
J. Catto & Co'y	Blinds, $35.43, Holland, &c., $21 90		57 33		
John Kay	Carpet		157 08		
R. Hay & Co'y	Furniture, repairs to ditto		1023 45		
Aikenhead & Crombie	Hardware		73 56		
T. M. Wood & Co'y	Blinds		154 53		
Cuming & Wells	Rubber Hose		106 90		
C. Potter	Thermometers		19 00		
W. H. Rice	Guards for windows		19 75		
			1611 60		
	Less received for Stoves sold to the Boarding-House		47 30		
					1564 30
	Incidentals.				
George Frost	Scrubbing	13 25			
James Rock	"	10 50			
			23 75		
C. Wilson	Adjusting Weigh Scales		14 50		
McFarlane and Somerville	Step Ladder		5 00		
M. O'Connor	Gold Lettering in Public Hall		30 20		
R. Sewell	Stoves, attending to		11 20		
City Water Board	Water Supply		20 00		
Laird and Roberts	Frame for Plan		4 00		
Geo. Ringham	Tinsmith's Work		6 55		
Band Q. O. Rifles	Band at Cricket Match		25 00		
Aikenhead and Crombie	Hardware, Tools, &c		25 05		
J. P. Wagner and Co	Lumber		4 51		
H. A. Nelson & Son	Brooms		6 85		
I. E. B. Smith	Copying Specifications		10 00		
George Frost	Work done on Grounds and Building		50 00		
					236 61
Carried forward					24748 93

No. 2 B.—UPPER CANADA COLLEGE—*Continued.*

RECEIPTS.	$ c.	TO WHOM PAID.	SERVICE.	$ c.	$ c.	$ c.
Brought forward	26347 68		*Brought forward*	... .	.....	24748 93
			Permanent Improvement Fund.			
			Amount carried to this account per Resolution of Senate, being remainder of balance at credit of this account at 30th June, 1877, after paying Gratuities to Principal and Masters in full of former deductions from their Salaries	.....	.....	1344 87
						26093 80
			Balance 30th June, 1878	.....	.....	253 88
	26347 68					26347 68

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

J. E. BERKELEY SMITH, *Bursar.*

No. 3.—UPPER CANADA COLLEGE.

THE BURSAR'S STATEMENT of Receipts and Expenditure on Acc't of "The Residence, U. C. C," for the Year ending 30th June, 1878.

RECEIPTS.	$ c.	TO WHOM PAID.	SERVICE.	$ c.	$ c.	$ c.
Board dues	15826 75		*Balance 30th June, 1877*			381 54
			Salaries.			
			Medical Attendant, 12 mo's Salary		150 00	
		Dr. Barrett	Assistant Master " "		200 00	
		Geo. B. Sparling	" 3 " "	50 00		
		Thos. Wicher	" 9 " "	150 00		
		T. H. Redditt			200 00	
			" 12 " "		200 00	
		W. S. S. Jackson	Lady Superintendent, Salary to 30th June		255 00	
		Mrs. Sewell				1005 00
			Pew Rent.			
			Amount of Account		172 00	
		St. James' Cathedral	"		76 00	
		St. George's Church	"		116 00	
		St. Andrew's Church	"		60 00	
		St. Michael's Cathedral				424 00
			Repairs.			
			Carpenter's work, &c.		145 76	
		F. H. Walker	Paints, Oil, &c.,		23 15	
		J. L. Bronsdon & Co'y	Tinsmith's work, &c		4 10	
		W. Henderson	Plumber's work, &c		24 81	
		Cuming & Wells	Repairs to Stoves, &c.		88 48	
		R. Sewell	" Gymnasium.		30 00	
		R. George				316 30
			Outfit.			
			Furniture		65 20	
		R. Hay & Co'y	One Rug		6 50	
		H. Graham & Co'y	Stoves, &c.		131 53	
		R. Sewell	Plumber's work and materials		33 67	
		Cuming & Wells	Spoons and Engraving		17 90	
		P. Paterson & Son	Stoves (valued by R. Sewell)		47 30	
		U. C. College				302 10
Carried forward	15826 75		*Carried forward*			2428 94

No. 3.—UPPER CANADA COLLEGE—*Continued.*

RECEIPTS.	$ c.	TO WHOM PAID.	SERVICE.	$ c.	$ c.	$ c.
Brought forward	15826 75		*Brought forward*			2428 94
			Water.			
		City Water Board	For Play Ground			8 00
			Current Expenses.			
		The Principal	To defray Expenses		11953 18	
			Less returned		245 35	
						11707 83
			Insurance.			
		Western Assurance Co	On Building		67 50	
		Scottish Commercial Co	" Furniture		20 00	
						87 50
			Share of Board Dues.			
		J. Martland, M.A.	Resident Master			
			Allowance as per Statute of Senate being $3.00 per term for each pupil			1055 00
						15287 27
			Balance, 30th June, 1878			539 48
	15826 75					15826 75

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 4.—UPPER CANADA COLLEGE.

THE BURSAR'S STATEMENT of Receipts and Appropriations, &c., on account of "Moneys in Deposit," for the year ending 30th June, 1878.

RECEIPTS.		APPROPRIATIONS, &c.	
	$ c.		$ c.
Balance 30th June, 1877	50 00	Appropriated as Purchase Money	20 00
Placed in Deposit	32 00	Balance, 30th June, 1878	62 00
	82 00		82 00

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 5.—UPPER CANADA COLLEGE.

THE BURSAR'S STATEMENT of Receipts and Expenditure on account of "The Permanent Improvement Fund," for the year ending 30th June, 1878.

RECEIPTS.		EXPENDITURE.	
	$ c.		$ c.
Balance, 30th June, 1877	2000 00	Balance, 30th June, 1878	3344 87
Amount transferred to this account from Income Appropriation by Resolution of Senate	1344 87		
	3344 87		3344 87

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 6.—UPPER CANADA COLLEGE.

THE BURSAR'S STATEMENT of Receipts and Expenditure on account of "U. C. College Building Account," for the year ending 30th June, 1878.

RECEIPTS.		EXPENDITURE.	
	$ c.		$ c.
To Loan from Bank of Commerce.....	42537 27	Amount expended to 30th June, 1877, as per account to that date	3185 00
		W. Booth, account Contract for making addition to U. C. College, and East Master's Houses, as per Certificates of Architect..	38021 97
		Clerk of Works.	
		J. VanIderstine, Wages.....	532 00
		J. C Stuart, Wall Paper .....$205 73 M. O'Connor, putting on Wall Paper 92 57	298 30
		Geo. W. Lloyd, Architect, on account	500 00
	42537 27		42537 27

J. E. BERKELEY SMITH, *Bursar.*

BURSAR'S OFFICE,
Toronto, 1st July, 1878.

No. 7.—UPPER CANADA COLLEGE.

The Bursar's Statement of Receipts and Expenditure on account of "Bank of Commerce" Loan for year ending 30th June, 1878.

RECEIPTS.		EXPENDITURE.	
	$ c.		$ c.
Amount loaned to U. C. College by Bank of Commerce, as per O. C. 2nd June, 1877, to erect addition to College Building and Masters' houses, upon hypothecation of $50,000 debentures....	42,537 27	By amount expended upon College Buildings and east Masters' houses to this date as per account No. 6.	42,537 27
	42,537 27		42,537 27

J. E. Berkeley Smith, *Bursar.*

Bursar's Office,
Toronto, 1st July, 1878.

UPPER CANADA COLLEGE.

Statement of Cash Balances, 30th June, 1878.

	ACCOUNT.	Dr.	Cr.
		$ c.	$ c.
No. 2A	Income fund	2,276 28	
	Bank of Commerce	10,528 10	
" 6	U. C. C. Building	42,537 27	
	Cash		28 29
" 1	Permanent fund		8575 86
" 2B	Income appropriation		253 88
" 4	Deposits		62 00
" 3	Residence U. C. C.		539 48
" 5	Permanent Improvement Fund		3344 87
" 7	Bank of Commerce Loan		42537 27
		55,341 65	55,341 65

J. E. Berkeley Smith, *Bursar.*

Bursar's Office,
Toronto, 1st July, 1878.

RETURN

TO an Order of the House for Returns for the years 1876 and 1877, of all Orders issued by the Court of Chancery appointing Guardians, *ad litem*, to infants, lunatics, and to all other persons under disability, and the names of the Solicitors so appointed; also, a RETURN of all Bills of Costs taxed during the above two years in the Court of Chancery for Guardians, *ad litem*, giving the amounts of the Bills brought, the amounts allowed, and the names of the Solicitor and Guardian, *ad litem*, in each case; and showing, also, the amounts disbursed by such Solicitor and Guardian, *ad litem*, in payment to agents, to the fee fund, to sheriffs, and otherwise; also, a RETURN of the amount at the credit of the Suitors' Fee Fund during these years, and the amounts paid out of said fund, and to whom paid.

By Command,
ARTHUR S. HARDY,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, *15th January, 1879.*

RETURN for the years 1876 and 1877 of all Orders issued by the Court of Chancery appointing *Guardians ad litem* to infants, lunatics, and all other persons under disability, and the names of the Solicitors appointed.

1876.

Appointed by Master at Barrie.

Name of Case.	Solicitor Appointed.
Hammill v. Hammill	John Hoskin, Esq., Q.C.
Rivet v. Desourdi	" "
Gowan v. Rogers	" "
Black v. Moore	" "
Tremble v. Moore	" "

Appointed by Master at Belleville.

Flower v. Anderson	John Hoskin, Esq., Q.C.
Hayes v. Cryderman	" "
Stewart v. Vermilyea	" "

Name of Cause.	Solicitor Appointed.
Allison v. Allison	John Hoskin, Esq., Q.C.
Loomis v. Galway	" "
Walbridge v. Howard	" "
Downey v. Downey	" "
Murphy v. Conners	" "
Cotter v. Brummell	" "
Falkiner v. Brennan	" "
Kelly v. Kelly	" "
Genare v. Langevin	" "
Gilderslieve v. Cowan	" "
Flint v. Campbell	" "
Flint v. Thompson	" "
Scott v. Langevin	" "

Appointed by Master at Berlin.

Russell v. Brain	John Hoskin, Esq., Q.C.
Ramsay v. Ramsay	" "
Kurinaman v. Kaiser	" "
Hawke v. Hawke	" "

Appointed by Master at Brampton.

Chinguacousy v. Starratt	John Hoskin, Esq., Q.C.
Hillock v. Dodds	" "
Holtby v. Shaw	" "

Appointed by Master at Brantford.

Green v. McIlroy	John Hoskin, Esq., Q.C.
Elles v. Vanderlip	" "
Brown v. Farr	" "
Kerr v. Kerr	" "
Hawkins v. Ryan	" "

Appointed by Master at Brockville.

Dolen v. Denehy	John Hoskin, Esq., Q.C.
Connerty v. James	" "
Weir v. Tanny	" "
Atkinson v. Atkinson (2 orders)	" "
Poluck v. Spotswood	" "
Morden v. Jones	" "
Buckley v. Sherwood	" "

Appointed by Master at Cayuga.

Hanley v. Flander	John Hoskin, Esq., Q.C.

Appointed by Master at Chatham.

Sexsmith v. Bedford	John Hoskin, Esq., Q.C.
Vanallen v. Richardson	" "
Weldon v. Weldon	" "

Appointed by Master at Cobourg.

Eyre v. Dingman	John S. Ewart, Esq.
Sculthorp v. Bouskill	John Hoskin, Esq., Q.C.
Re Patterson	" "

Appointed by Master at Cornwall.

Name of Cause.	Solicitor Appointed.
Tinkess v. Groves	John Hoskin, Esq., Q.C.
Chisholm v. Chisholm	" "
McKinnon v. McKinnon	" "
Fulton v. Fulton	" "

Appointed by Master at Goderich.

McKay v. Papple	John Hoskin, Esq., Q.C.
Elvers v. Davis	" "

Appointed by Master at Guelph.

Shields v. Eaves	John Hoskin, Esq., Q.C.
Harvey v. Harvey	" "
Arthur v. Arthur	" "
Kennedy v. Kennedy	" "

Appointed by Master at Hamilton.

Miller v. Mordan	John Hoskin, Esq., Q.C.
Chambers v. Penny	" "
Morrison v. Morrison	" "
Murton v. Ball	" "
Husband v. Husband	" "

Appointed by Master at Kingston.

Hornbeck v, Hornbeck	John Hoskin, Esq., Q.C.
Johnson v. Marsh	" "
Hogan v. Fagan	" "

Appointed by Master at Lindsay.

Windrim v. Eade	John Hoskin, Esq., Q.C.
Campbell v. Carmichael	" "
Daily v. Cottingham, No. 1	" "
Daily v. Cottingham, No. 2	" "
Stephenson v. Donovan	" "
Re King, Cameron v. King	" "
Beatty v. Donovan	" "
Ruth v. Ruth	" "

Appointed by Master at London.

Wilcox v. Richardson	John Hoskin, Esq., Q.C.
Little v. Little	" "
Banghart v. McGregor	" "
Reid v. McKenzie	" "
Barker v. Sheppard	" "
McNab v. Harte	" "
Minshell v. Minshell	" "
Chambers v. Hartley	" "
Pinel v. Pinel	" "
Dance v. Mihell	" "

Appointed by Master at L'Orignal.

Robertson v. Brown	John Hoskin, Esq., Q.C.
*Hailon v. Brown	" "

*Mr. Hoskin states that in this case the order was made by the Master appointing him Guardian to a lunatic. The order was made by mistake and nothing was done under it.

Appointed by Master at Milton.

Name of Cause.	Solicitor Appointed.
Esquesing v. McPherson	John Hoskin, Esq., Q.C.

Appointed by Master at Napanee.

Grange v. Geddes	John Hoskin, Esq., Q.C.
Gibson v. Ferguson	" "

Appointed by Master Matheson at Ottawa.

Lewis v. Barton	John Hoskin, Esq., Q.C.
Wilson v. Montgomery	" "
Donelly v. Masse	" "
Stewart v. Tobin	" "
Young v. Leamy	" "
Fraser v. Fraser	" "
Roberts v. Fraser	" "
Pinley v. Featherstone	" "

Appointed by Master at Owen Sound.

Clark v. Clark	John Hoskin, Esq., Q.C.
Baker v. Armitage	" "
Woods v. Brown	" "

Appointed by Master at Picton.

Striker v. Harris	John Hoskin, Esq., Q.C.

Appointed by Master at Perth.

Hands v. Mayberry	John Hoskin, Esq., Q.C.
Code v. Code	" "
McLachlin v. McDonald	" "
Bell v. Neice	" "
Drummond v. Drummond	" "
Davies v. Davies	" "
Oliver v. Oliver	" "
Dewitt v. Bell	" "

Appointed by Master at Peterborough.

Hazlett v. Trunwith	John Hoskin, Esq., Q.C.
*Mitchell v. Mitchell	" "
Fowler v. Casey	" "
Clemente v. Sloan	" "
Darcey v. Newell	" "
Dumble v. Larush	" "
Sloan v. Sloan	" "
Rutherford v. Rutherford	" "
Re McGregor—Patterson v. McGregor	" "

Appointed by Master at Sandwich.

Warwick v. Case	John Hoskin, Esq., Q.C.
Wallace v. Dupour	" "

*Suit said to be settled, and order never served.

Appointed by Master at St. Catharines.

Name of Cause.	Solicitor Appointed.
Gilleland v. Wadsworth	John Hoskin, Esq., Q.C.
Batten v. Donohue	" "
Jones v. Wingrove	" "
Taylor v. Lalor	" "
Young v. Reavely	" "
Swayze v. O'Donohue	" "
Macdonald v. Dobbie	" "
Connolly v. O'Reilly	" "
Fuller v. Rodgers	" "

Appointed by Master at Stratford.

Gram v. Hood	John Hoskin, Esq., Q.C.
Mitchell v. Mitchell	" "
Alstadt v. Gortnor	" "
Whellams v. Nickells	" "
Doering v. Bedford	" "
Marshall v. Barnatt	" "

Appointed by Master at Simcoe.

Griffith v. Freed	John Hoskin, Esq., Q.C.
Smith v. Smith	" "
Birdsell v. Johnson	" "
Washington v. Olds	" "
Hayes v. Smith	" "
Wilson v. Smyth	" "

Appointed by Master at Walkerton.

Misner v. Murphy	John Hoskin, Esq., Q.C.
Rivers v. Woods	" "
Re Watterson—Richainback v. Gowanlock	" "

Appointed by Master at Woodstock.

Kennedy v. Kennedy	John Hoskin, Esq., Q.C.
Thompson v. Bartley	" "

Appointed by Master at Whitby.

Coleman v. Hoskin	John Hoskin, Esq., Q.C.
Stewart v. Stalker	" "
Wright v. Dickinson	" "
Bascom v. Bascom	" "
Tipp v. Fraser	" "
Gould v. Fraser	" "

Appointed by Clerk of Records and Writs.

Ferris v. O'Hara	John Hoskin, Esq., Q.C.
Dimina v. Dimina	" "
Smith v. Hayes	" "
Hellun v. Severs	" "
Canada P. L. & S. Co. v. Cooper	" "
Gibson v. Gibson	" "
Canada P. L. & S. Co. v. Marshall	" "
Hume v. Small	" "
Laidlaw v. Danock	" "
Robinson v. Burgess	" "
Belfry v. Trew	" "

Name of Cause.	Solicitor Appointed.
Meek v. Meek	John Hoskin, Esq., Q.C.
Smith v. White	" "
Hooper v. Hooper	" "
Gillespie v. McNeil	" "
Peplow v. Forsyth	" "
McCallum v. Lindsay	" "
Mowat v. Dewar	" "
Abell v. Weir	" "
Hacking v. Hacking	" "
Walker v. Newton	" "
O'Brien v. O'Brien	" "
Farmers' L. & S. Co. v. McKay	" "
King v. Jones	" "
Lee v. Plater	" "
Trust and Loan v. Holiday	" "
Trust and Loan v. Sowden	" "
Trust and Loan v. Varin	" "
Trust and Loan v. Cameron	" "
Briggs v. Briggs	" "
Pinkerton v. Stinson	" "
Colonial Trust v. Coorser	" "
Murphy v. Murphy	" "
Davis v. Davis	" "
Rose v. Hickey	" "
Robertson v. Robertson	" "
Trust and Loan v. Sloan	" "
McDougall v. Watson	" "
McGaw v. Stovell	" "
Furniss v. Barrett	" "
McKay v. McKay	" "
Foster v. Foster	" "
Re McKay	" "
Re Vermilyea	" "
Re Brockwell	" "
Re Gowsell	" "
Re Dodds	" "
Re McTaggart	" "
Re Courtney	" "
Re Jolly	" "
Re Walsh	" "
Re Welsh	" "
Re Beaty	" "
**Re* Downey	" "
**Re* Sherman	" "
Re Williamson	" "
Re Beatty	" "
Re Morrish	" "
Canada Landed Cr. Co. v. Pyper	J. S. Ewart, Esq.
Holliday v. Gilroy	" "
Christie v. Hostetter	" "
Allan v Martin	" "
Morgan v. Nightingale	John Hoskin, Esq., Q. C.
Keough v. Keough	" "
Manning v. Johnston	" "
Western Canada v. Warmoa	" "

*Mr. Hoskins says he was never served with any order in this case.

Appointed by Referee in Chambers.

Name of Cause.	Solicitor Appointed.
Himsworth v. Himsworth	John S. Ewart, Esq.
Cameron v. Wigle	John Hoskin, Esq., Q. C.
Severn v. Lafferty	" "
Cawthra v. Hillock	" "
Re McCullum	" "
Coleman v. Cawplin	" "
Furniss v. Birtch	" "
Re Sparks	" "
Muttleberry v. Birtch	" "

1877.

Appointed by Master at Barrie.

Carlish v. McKee	John Hoskin, Esq., Q. C.
Ferris v. McGee	G. W. Lount, Esq.
Weir v. Kane	John Hoskin, Esq. Q. C.
Baycroft v. Gilroy	" "
McConkey v. McVeigh	" "
Arnison v. Thompson	" "

Appointed by Master at Belleville.

Clark v. Bogart	John Hoskin, Esq., Q. C.
Cunningham v. Cunningham	" "
McKenzie v. Latchford	" "
Ham v. Murphy	" "
Wragg v. Pickle	" "
Herman v. Herman	" "
Cook v. Benson	" "
Reed v. Latchford	" "
Gildersleeve v. Oliver	" "
Griffin v. Irwin	" "

Appointed by Master at Berlin.

Cleg v. Johnson	John Hoskin, Esq., Q. C.
Kerr v. Kerr	" "
Ruppell v. Schmidt	" "

Appointed by Master at Brampton.

Holtby v. Shaw	John S. Ewart, Esq.
Pointer v. Pointer	John Hoskin, Esq., Q. C.
Fletcher v. Whitesides	" "
Porter v. Armstrong	" "
In re Caldbeck	" "
Poniter v. Poniter	John S. Ewart, Esq.
Dolson v. Craig	John Hoskin, Esq. Q. C.
Porter v. Armstrong	" "

Appointed by Master at Brantford.

Ryan v. Hawkins	John Hoskin, Esq., Q. C.
Schultz v. Squire	" "
Green v. Cunningham	" "
Loudon v. Loudon	" "
Carroll v. Donahon	" "
Donohue v. Donohue	" "

Appointed by Master at Brockville.

Name of Cause.	Solicitor Appointed.
Roche v. Mooney	John Hoskin, Esq., Q. C.
Percival v. Percival	" "
Hunt v. Hunt	" "
Reid v. McIvar	" "
Lahace v. Lahace	" "
Scott v. Lawlor	" "

Appointed by Master at Chatham.

Smith v. Smith	John Hoskin, Esq., Q.C.

Appointed by Master at Cobourg.

Re Guillet	John Hoskin, Esq., Q.C.
Kane v. Kane	" "
Reive v. Pringle	" "

Appointed by Master at Cornwall.

Fulton v. Fulton	John Hoskin Esq., Q.C
Carman v. Zerin	" "
Kennedy v. Kennedy	" "
Harrison v. Backus	" "
Abrams v. Clark	" "

Appointed by Master at Goderich.

Seymour v. Fluker	John Hoskin, Esq., Q.C.
Seymour v. Hudson	" "
McGurr v. McGurr	" "
Holmes v. Brown	" "

Appointed by Master at Guelph.

Ellis v. Hunter	John Hoskin, Esq., Q.C
Mitchell v. Hogg	" "
Sinclair v. McDougall	" "
Sinclair v. McDougall	" "
Patterson v. Cosser	" "
D'Esterre v. Benn	" "
Watt v. Butchart	" "

Appointed by Master at Hamilton.

Grand Rapids v. Ralston	John Hoskin, Esq., Q.C.
Pettit v. Marlatt	" "
Green v. Green	" "
Carter v. Hannon	" "
Calder v. Calder	" "
Weir v. Weir	" "
Lawson v. Glendon	" "
Stewart v. Robinson	" "
Erdman v. Erdman	" "
Hoover v. Moore	Jno. S. Ewart, Esq.
Woehl v. Worke	" "
Garrett v. Bromley	John Hoskin, Esq., Q.C.
Clohecy v. Clohecy	" "
Beecher v. Miller	John S. Ewart, Esq

Appointed by Master at Kingston.

Name of Cause.	Solicitor Appointed.
*Bawden v. Beckwith	John Hoskin, Esq., Q.C.
Anglin v. Curragh	" "
Rees v. Fraser	" "
Cassiday v. Cassiday	" "
Coy v. Coy	" "
Simmons v. Simmons	" "
Nickle v. Grimshaw	" "
Kirkpatrick v. Conville	" "

Appointed by Master at Lindsay.

Laidley v. Griffin	John Hoskin, Esq., Q.C.
Lundy v. Bell	" "
Nelson v. Nelson	" "
Hudspeth v. Lithgow	" "
Fitzgerald v. Ketchum	" "
Sinclair v. Bell	" "

Appointed by Master at London.

McKellar v. McKellar	John Hoskin, Esq., Q.C.
Macklem v. Fuller	" "
Hammond v. Emms	" "
Vauston v. Vauston	" "
Fitzgerald v. Fitzgerald	" "
Goodwell v. Duett	" "
Jennings v. Harris	" "
Green v. Nixon	" "
Strinson v. Strinson	" "
Taylor v. Taylor	" "
Beecher v. Fuller	" "

Appointed by Master at L'Orignal.

†Helmer v. Shelp	John Hoskin, Esq., Q.C.
Robertson v. Stewart	" "

Appointed by Master at Milton.

Miller v. Miller	John Hoskin, Esq., Q.C.
Whiteside v. Whiteside	" "

Appointed by Master at Ottawa.

Slater v. Aumond	John Hoskin, Esq., Q.C.
Grant v. McInvally	" "
McRostie v. McRostie	" "
Baird v. Baird	" "
Young v. McLaughlin	" "
McDiarmid v. McDiarmid	" "
La Banque National v. Wright	" "

Appointed by Master at Owen Sound.

Cameron v. McLellan	John Hoskin, Esq., Q.C.

Appointed by Master at Pembroke.

Coudie v. O'Meara	John Hoskin, Esq., Q.C.

* John Hoskin says he was never served with any order appointing him Guardian in this case.
† This order is said to have been issued by mistake; no proceedings taken thereunder.

Appointed by Master at Perth.

Name of Cause.	Solicitor Appointed.
Hogan v. Murphy	John Hoskin, Esq., Q.C.
Webster v. Webster	" "
Forgie v. Townsend	" "
McNicol v. McNicol	" "
Re Sadler-Brown v. Simpson	" "
Hamlin v. Greig	" "

Appointed by Master at Peterborough.

Hanetain v. Reynolds	John Hoskin, Esq., Q.C.
Re Kinally—Menzies v. Kinally	" "
Re Laughlin—Laughlin v. Reid	" "

Appointed by Master at Picton.

Gillespie v. Dunlop	John Hoskin, Esq., Q.C.
Thompson v. Thompson	" "

Appointed by Master at Sandwich.

Banks v. Fox	John Hoskin, Esq., Q.C.
Carmichael v. Ferris	" "
Brown v. Ryan	" "

Appointed by Master at St Catharines.

Burns v. Patterson	John Hoskin, Esq., Q.C
McDonald v. Robinson	" "
St. John v. Pew	" "
McDonald v. McDonald	" "
Boughner v. McKelvey	" "
Misiner v. Misiner	" "
Young v. Mathews	" "

Appointed by Master at St. Thomas.

Carolan v. Wallbrooke	John Hoskin, Esq., Q.C
Boikel v. Ferguson	" "
Munroe v. Courtz	" "
Scott v. Lodge	" "
Beg v. McColl	" "
Scott v. Pitfield	" "

Appointed by Master at Simcoe.

Palmerston v. Mitchell	John Hoskin, Esq., Q.C
Montross v. Montross	" "
Duncombe v. Webber	" "
Gooding v. Marchant	" "

Appointed by Master at Stratford.

McDiarmid v. Renwick	John Hoskin, Esq., Q.C.
Spears v. Waddell	" "
Donald v. Easten	" "
Phillips v. Armstrong	" "
Jennison v. Jennison	" "
Stauch v. Eidt	" "
Hunt v. Gibson	" "
Heygate v. Pinkerton	" "

Appointed by Master at Whitby.

Name of Cause.	Solicitor Appointed.
Cameron v. Cameron	John Hoskin, Esq., Q.C.
McLelland v. McLelland	" "
Truax v. Williams	" "
West v. Minthorne	" "
Bruce v. Payne	" "
Carson v. Carson	" "

Appointed by Master at Woodstock.

Atcheson v. Allen	John Hoskin, Esq., Q.C.
*Furlong v. McNally	" "
Ross v. Perry	" "
Carroll v. Karn	" "
Hoodless v. Hoodless	" "
McWhinnie v. McWhinnie	" "
Hood v. Hicks	" "

Appointed by Clerk of Records and Writs.

Warren v. Warren	John Hoskin, Esq., Q.C.
May v. May	" "
Steward v. May	" "
Shipway v. Hewlitt	" "
Coulter v. Coulter	" "
Benson v. Fraser	" "
Clarke v. Dickson	" "
Wait v. Claus	" "
Trust and Loan v. Mason	" "
Wildrick v. Wildrick	" "
Ardagh v. Pope	" "
Ramsay v. McDonald	" "
Freehold L. & S. Society v. Robertson	" "
Stickly v. Fockler	" "
Loudon & Co. L. & A. Co. v. Brunette	" "
Dilman v. Dilman	" "
Loudon & Co. L. & A. Co. v. McAvoy	" "
Walton v. Walton	" "
Messenger v. Lockerby	" "
Hepburn v. Hepburn	" "
Pegg v. Kiley	" "
McDowell v. Thurston	" "
Hardie v. Hardie	" "
Hacking v. Hacking, 2	" "
Shaw v. Crawford	" "
Barclay v. Post	" "
Cooke v. Cooke	" "
Cayley v. Vankoughnet	" "
Bigger v. McDonell	" "
Cawthra v. Moloney	" "
Cameron v. O'Connell	" "
Re Moon	" "
Partridge v. Watson	" "
Re Robinson	" "
Re Kennedy—Wigle v. Kennedy	" "
Re Creig	" "
Re Fahey	" "

Mr. Hoskin says he was never served with any order in this case,

Name of Cause.	Solicitor Appointed.
Lloyd v. Lloyd	John Hoskin, Esq., Q.C.
Re Donohue	" "
Howson v. Leslie	" "
Re Lloyd—Lloyd v. Lloyd	" "
Lloyd v. Brillinger	" "
Chisholm v. Westman	" "
Loughead v. Knott	" "
Re Jack	" "
Re Kennedy—Wigle v. Kennedy	" "
Re Tracey	" "
Re Watson—Watson v. Watson	" "
McGuire v. McGuire	" "
Stirling v. McClain	" "
Griffin v. Simpson	John S. Ewart, Esq.
Henderson v. Ryan	" "
Stewart v. Phillips	" "
Stephens v. Thompson	" "
Re Marsh	John Hoskin, Esq., Q.C.
Re Lloyd	" "
Re Kippen v. Kippen	" "

Appointed by the Referee in Chambers.

Mattice v. McNairn	John Hoskin, Esq., Q.C.
Sharpe v. Fowlie	" "
Ontario L. & S. Co. v. Milne	" "
Re Finlay	" "
Harrison v. Maxwell	" "

GEO. S. HOLMSTED,
Registrar of the Court of Chancery.

TORONTO, *October 29th, 1878.*

DEAR SIR,—In order that the return of my fees as Guardian, about to be made, may show what the annual income derived therefrom is, I beg to say that for the years 1876 and 1877, there has been taxed to me, including small Chamber matters, the sum of about $24,153.00; out of this I have paid in actual CASH to Agents, Sheriffs, Counsel, Stamps and the like disbursements, the sum of $7,832.00. The annual expenditure to which I am put for clerks, assistant, stationery, postage, and office expenses, exclusively relating to this branch, is the sum of $3,686.00, which makes the annual income received by me about the sum of $4.475.00, and this includes all counsel fees taxed to me.

The return made by you makes no mention of the numerous matters in which, from time to time, I have been called upon by the Judges, either to take proceedings or to make investigation, for the most of which, I have received and can receive no remuneration, not even for my outlay consequent upon the steps I have had to take. Some of the matters have been exceedingly troublesome and complicated, for which I have made no charge whatever, and I may mention that these matters have been of frequent occurrence, and usually demand immediate attention. Any moneys obtained from the Suitors' Fee Fund in 1876 and 1877, are included in the return, or were for costs taxed before 1876. In some cases, referred to in your return, I have never been served with an Order appointing me Guardian, and know nothing of them, and in several others in which I have been served the Plaintiffs have not proceeded with the suits, and I suppose do not intend to.

I am, dear Sir,
Your obedient Servant,
JOHN HOSKIN.

GEO. S. HOLMSTED, ESQ.,
Registrar of the Court of Chancery,
Osgoode Hall, Toronto.

OSGOODE HALL,
October 15th, 1878.

SIR,—I send herewith, a return of the names of all cases in which bills of costs have been taxed during 1876 and 1877, for Guardians *ad litem*, giving the name of the Guardian in each case, the amounts of bills brought in, the amounts allowed, and showing the disbursements as far as it is in my power to do so. In the case of costs revised in the office, the bills themselves are returned to the Local Masters, and the revision book shows only the amount of bills as brought in, and the amount at which allowed. In most of the cases, the bills have, after a great deal of trouble, been procured, but some I have not succeeded in getting, and in the case of the latter I am unable to state the disbursements.

I have the honour to be,
Your obedient Servant,
T. W. TAYLOR.

GEO. S. HOLMSTED, ESQ.
Registrar Court of Chancery.

RETURN of all cases in which Bills of Costs have been taxed during the years of 1876 and 1877 for Guardians *ad litem*, showing the names of the cases, name of Guardian in each, amount of Bill as brought in, amount at which Bill taxed, and amount of disbursements.

PART FIRST.

BILLS TAXED IN THE MASTER'S OFFICE:—

STYLE OF CAUSE.	Guardian.	Brought at.	Taxed at.	Solicitor's Fees.	Disbursements.
McCarthy v. Orser	J. Hoskin.	$39 90	$39 90	$25 75	$14 15
McIntyre v. Sinclair	"	37 50	37 50	22 80	14 70
Masson v. Flanagan	"	97 15	82 15	51 50	30 65
Riley v. Huston	"	62 89	59 29	29 65	29 64
Morphy *Re* M. V. M	"	37 16	37 16	20 70	16 46
McKinnon v. McKinnon	"	49 05	36 62	29 17	7 45
McCash *Re*	"	44 05	44 05	24 00	20 05
Ritchie *Re* Sewry v. Ritchie	"	48 58	48 58	12 40	36 18
McMillan v. McMillan	"	148 57	141 07	71 00	70 07
Ince *Re*	"	74 45	54 15	32 10	75 05
McIlwain v. McIlwain	"	126 94	126 94	90 60	36 34
Kingsmill v. Miller	"	56 74	56 74	49 90	6 84
Hazlett v. Trenwith	"	30 57	30 57	16 30	14 27
Manning v. Johnston	"	55 46	50 46	26 10	24 36
Beecher v. Webster	"	39 58	39 58	25 40	14 18
Gauthiere v. Semandre	"	41 53	36 25	25 82	10 43
Murray v. Pomeroy	"	36 69	36 69	22 60	14 09
Aldwell v. Aldwell	"	77 10	58 15	26 25	31 90
Batten v. Donohue	"	33 78	33 78	19 60	14 18
Richardson v. Bilton	"	54 79	49 69	27 60	22 09
Lewis v. Barton	"	56 79	56 79	38 30	18 49
Loomis v. Galway	"	40 26	40 26	25 80	14 46
King v. Jones	"	36 89	36 29	22 35	13 94
Bertrand v. Bertrand	"	30 53	29 43	22 90	6 53
Baycroft v. Gilroy	"	53 89	53 89	23 70	30 19
Shipway v. Hewlett	"	41 95	41 95	18 20	23 75
Smith v. McDonald	"	40 59	40 59	21 35	19 24
Seymour v. Fluker	"	47 51	47 51	28 00	19 51
Ramsay *Re* Davey v. Walker	"	55 20	49 70	28 30	21 40
Griffin v. Irwin	"	42 84	42 84	23 90	18 94
Stephenson v. Donovan	"	37 24	37 24	23 30	13 94
Marsh *Re*	"	41 03	41 03	34 50	6 53
Pettit v. Marlett	"	114 61	109 61	58 70	50 91
Slater v. Aumond	"	41 09	41 09	22 00	19 09
McRostie v. McRostie	"	43 70	43 70	21 00	22 70
Cawthra v. Hillock	"	52 27	61 57	34 50	27 07

RETURN of all cases in which Bills of Costs have been taxed during the years of 1876 and 1877 for Guardians *ad litem.—Continued.*

STYLE OF CAUSE.	Guardian.	Brought at.	Taxed at.	Solicitor's Fees.	Disbursements.
Gibson v. Gibson	J. Hoskin.	$107 63	$92 43	$53 00	$39 43
Connenty v. James	"	35 32	35 32	21 30	14 02
Wilson v. Smithe	"	51 68	42 88	15 90	26 98
Ellis v. Hunter	"	208 34	208 24	44 50	163 74
McGaw v. Stovel	"	257 49	256 49	146 20	110 29
Trimble v. Moore	"	58 90	58 90	22 70	36 20
Cunningham v. O'Connell	"	67 16	66 16	24 30	41 86
McDonald v. Beare	"	37 53	36 53	21 00	15 53
Carmichael v. Ferris	"	45 58	44 58	25 45	19 13
Trust & Lwan v. Cameron	"	59 89	56 39	39 50	16 89
Clark v. Dickson	"	59 80	59 80	18 20	41 60
Fowler v. Casey	"	44 69	44 69	30 20	14 49
St. John v. Pew	"	55 65	54 65	39 40	15 25
Cuthbert v. Cuthbert	"	.. ..	199 44	.. ..	.. ..
Byers v. Byers	"	57 34	57 34	38 30	19 04
Ridout v. Wells	"	79 27	76 27	54 80	21 47
Preston v. Preston	"	207 66	207 66	164 40	43 26
Coffee v. Coffee	"	62 37	62 37	43 00	19 37
Brown v. Falkner	"	57 33	54 83	37 45	17 38
McMurrich v. Playter	"	13 50	13 50	13 38	12
Guanty v. Smelser	"	129 73	129 73	76 50	53 23
Summerfelt v. Summerfelt	"	76 99	73 99	53 40	20 59
Brockwell *Re*	"	62 51	62 51	46 00	16 51
C. P. L. & S. Co. v. Leech	"	11 42	10 32	9 10	1 22
C. P. L. & S. Co. v. Marshall	"	42 30	42 30	26 00	16 30
Cheesborough v. Holliday	"	103 52	101 52	62 60	38 92
C. P. B. & S. Co. v. McDonell	"	39 59	39 59	25 70	13 89
Cawthra v. Fuller	"	47 42	44 92	21 10	13 82
Deans v. Cooley	J. S. Ewart.	580 69	419 29	275 50	143 79
Hemsworth v. Hemsworth	"	62 13	59 13	35 00	24 13
Guanty v. Smelser	"	100 01	95 50	46 19	49 31
McCanville v. Murphy	"	42 73	39 81	20 06	19 75
Henderson v. Vandozen	"	56 33	56 33	22 50	33 83
Condie v. O'Meara	John Hoskin.	50 94	47 74	22 30	25 44
Robinson v. Burgess	"	55 67	47 37	26 90	20 47
Pinel v. Pinel	"	139 70	127 70	86 40	41 30
Armitage v. Owens	"	261 93	258 43	189 36	69 07
McDonald v. McDonald	"	51 97	49 07	23 30	25 77
Mesner v. Murphy	"	34 87	34 87	20 49	14 47
Batty *Re*	"	140 31	136 31	77 40	58 91
Buckley v. Sherwood	"	38 14	47 14	28 05	19 09
Donald v. Easten	"	34 51	34 51	21 05	13 46
Ontario L. & S. Co. v. Milne	"	35 23	35 23	21 20	14 03
Ham v. Murphy	"	29 68	29 68	25 00	4 68
Varin v. Turgeon	"	40 05	37 35	17 70	19 65
Davis v. Davis	"	87 63	85 63	61 60	24 03
Young v. Leamy	"	49 08	43 08	28 30	14 78
Robertson v. Robertson	"	20 85	17 92	12 89	5 03
Flint v. Thompson	"	37 28	37 24	23 00	14 24
Varin v. Turgeon	"	16 70	19 00	11 80	7 20
Benson v. Fraser	"	45 56	45 56	26 50	19 06
Brown v. Farr	"	10 53	10 00	10 00	....
Cotter v. Brummell	"	38 00	37 00	22 75	14 25
Patrick v. Spotswood	"	35 28	35 28	21 70	13 58
Farmers' v. McKay	"	67 45	62 75	34 90	27 85
Walker v. Newton	"	31 99	31 99	18 20	13 79
Taylor v. Lalor	"	36 76	36 76	22 55	14 21
Keough v. Keough	"	100 29	100 29	73 70	26 59
C. P. L. & S. Co. v. Leech	"	106 21	102 91	56 30	46 61
C. P. L. & S. Co. v. Marshall	"	16 36	16 36	15 80	56
Sunter v. Johnson	"	144 48	141 48	91 60	49 88
Belfrey v. Trew	"	148 00	148 00	56 40	91 60
Ramsay v. Ramsay	"	70 23	68 03	43 50	24 53
Briggs v. Briggs	"	71 47	66 47	42 40	24 07
Lea v. Playter	"	49 58	49 58	30 05	19 53
Hellem v. Severs	"	131 63	131 63	42 90	88 73
Ackerill v. Bolderick	"	36 68	36 68	22 50	14 18
Belfrey v. Trew	"	53 97	32 87	19 00	13 87
Beatty *Re*	"	58 71	58 71	27 70	31 01

RETURN of all cases in which Bills of Costs have been taxed during the years of 1876 and 1877 for Guardians *ad litem.—Continued.*

STYLE OF CAUSE.	Guardian.	Brought at.	Taxed at.	Solicitor's Fees.	Disbursements.
Birdsell v. Johnson	John Hoskin.	$48 19	$47 66	$22 77	$24 89
Chambers v. Penny	"	33 50	33 50	20 50	13 00
Chinguacousy v. Starratt	"	31 99	31 99	18 93	13 06
Crawford v. Lunely	"	81 79	81 79	26 20	55 59
D'Arcy v. Newall	"	50 27	45 27	25 85	19 42
McConville v. Murphy	"	24 84	23 84	18 40	5 44
Gibson v. Ferguson	"	35 25	35 25	21 10	14 15
Genore v. Langevin	"	35 61	35 61	21 40	14 21
Griffith v. Freed	"	39 43	38 93	25 28	13 65
Northey v. Galer	"	101 02	90 02	71 10	18 92
Warwick v. Case	"	39 36	39 36	24 50	14 86
Western v. Stewart	"	35 59	35 59	21 65	13 94
Western v. Robinson	"	36 36	34 26	20 60	13 66
Donnelly v. Masse	"	84 10	70 50	34 30	36 20
Deans v. Cooley	"	415 92	391 14	250 62	140 52
Waring v. Smith	"	31 20	31 20	17 20	14 00
Trust and Loan Co. v. Green	"	38 17	38 17	21 35	16 82
Donnelly v. Bolger	"	76 11	76 11	52 60	23 51
Ellis v. Vanderlip	"	36 15	35 62	21 50	14 12
Eilber v. Davis	"	57 16	57 16	32 50	24 66
Cuthbert v. Cuthbert	"	206 04	199 94	137 00	62 94
London and Can. v. McAvoy	"	31 91	31 91	18 20	13 71
Stewart v. Robinson	"	68 97	68 97	52 70	16 27
Stewart v. Jobin	"	45 63	44 63	24 40	20 23
Little v. Little	"	139 29	139 29	77 60	54 69
Jones v. Wingrove	"	79 91	74 91	45 55	29 36
Darroch v. Blackstock	"	41 92	41 92	39 62	2 30
Roche v. Small	"	30 68	30 68	28 38	2 30
Curry *Re*	"	166 90	166 90	161 90	5 00
T. & L. Co. v. Green	"	21 91	21 41	19 90	1 51
Hogaboom v. Hackett	"	37 55	37 55	25 55	14 00
Furnis v. Barrett	"	44 72	44 72	30 60	14 12
Furnis v. Barrett	"	17 69	14 69	13 20	1 49
T. & L. Co. v. Wood	"	80 05	71 00	41 35	29 65
Hoover *Re*	"	30 63	30 63	29 20	1 43
T. & L. Co. v. Sowden	"	49 71	49 71	15 85	23 86
Walton v. Walton	"	64 84	57 34	33 20	24 14
Cameron v. Wigle	"	100 65	83 75	43 65	40 10
Hooper v. Hooper	"	49 10	46 10	32 00	14 10
Hasey v. Gordon	"	30 61	30 61	19 30	11 31
Laidlaw v. Darroch	"	36 89	38 89	36 89	2 00
Christie v. Hostetter	J. S. Ewart.	148 33	124 83	95 10	29 73
Allen v. Abney	"	10 00	10 00	7 94	2 06
Canada L. Cr. Co. v. Pyper	"	44 00	43 50	29 70	13 80

PART SECOND.

BILLS REVISED IN MASTER'S OFFICE:—

STYLE OF CAUSE.	Guardian.	Brought at.	Revised at.	Solicitor's Fees.	Disbursements.
McCarthy v. Orser	J. Hoskin.	40 72	40 22	21 40	18 82
Row v. Wert	"	43 55	41 95	25 95	16 00
Ward v. Ward	"	56 04	52 44	27 40	17 04
Re Liddle—Finlay v. Ross	"	71 47	66 67	31 40	35 27
Snyder v. Frank	"	43 99	43 99	23 99	20 00
Chinquacousy v. Starrat	"	37 44	32 06	28 02	4 04
Lesten v. Fuller	"	40 93	38 33	27 50	10 83
Squire v. Ellis	"	75 55	71 93	55 78	16 15
Dolan v. Denohy	"	71 80	65 59	33 59	32 00
Sexmith v. Bedford	"	71 61	74 01	46 50	27 51
Wright v. Nic	"	48 45	43 61	27 31	16 30

RETURN of all cases in which Bills of Costs have been taxed during the years of 1876 and 1877 for Guardians *ad litem.—Continued.*

STYLE OF CAUSE.	Guardian.	Brought at.	Revised at	Solicitor's Fees.	Disbursements.
Re Rombough	J. Hoskin.	$106 73	$106 73	$80 30	$26 43
Curry v. Curry	"	155 00	155 00	86 00	69 00
Switzer v. Irwine	"	89 00	87 97	54 99	22 98
Arthur v. Arthur	"	62 45	61 85	57 00	4 85
Page v. Clark	"	90 33	82 58	53 75	28 83
Morden v. Riley	"	74 03	72 03	53 10	18 93
Chambers v. Penny	"	33 47	31 97	27 80	4 17
Vanstone v. Geddes	"	122 61	124 08	83 07	39 01
Faulds v. Aikens	"	62 02	62 02	38 80	23 22
Gunn v. Rosbotham	"	69 73	73 73	46 80	26 93
Barker v. Sheppard	"	56 53	55 55	37 35	17 08
Jackson v. Jackson	"	58 70	65 70	41 80	23 90
Cruickshank v. Norris	"	53 55	48 55	31 65	16 90
Re Foster—Foster v. Foster	"	91 19	81 99	56 30	25 69
Harlow v. Brown	"	106 53	106 55	57 00	49 55
Re Harris—Harris v. Harris	"	91 02	85 99	63 77	22 12
Re Henderson	"	91 11	80 51	58 90	21 61
Fraser v. Fraser	"	48 19	49 19	31 20	18 99
Varin v. Varin	"	37 46	37 16	33 00	4 16
Sloan v. Sloan	"	97 34	93 84	64 00	29 84
Beatty v. Donovan	"	41 34	38 14	24 15	13 99
Lockhart v. Lockhart	"	52 16	50 76	34 40	16 36
Dodds *Re*—Dodds v. Dodds	"	75 82	69 82	49 55	20 27
Scott v. O'Brien	"	60 37	58 37	43 60	14 77
Davis v. Davis	"	77 58	67 98	40 60	27 38
Webster v. Webster	"	50 54	48 54	31 90	16 64
Dougall v. Johnson	"	70 98	66 48	44 30	22 18
Wigle v. Courtney	"	66 82	63 82	44 60	19 22
Lees *Re*—Lees v. Lees	"	114 56	103 56	80 50	23 06
Walsh *Re*	"	90 59	87 04	56 48	28 56
Rott v. Smith	"	82 86	70 96	43 80	27 16
Hutchison v. Ferrely	"	113 33	103 23	74 25	28 98
Washington v. Olds	"	63 42	57 82	26 65	31 17
Kelbfleisch v. Kelbfleisch	"	85 72	82 33	55 91	26 52
Mitchell v. Mitchell	"	82 77	80 74	54 37	26 37
Allstadt v. Gartner	"	96 97	94 37	67 75	26 62
Re Davis	"	186 67	186 67	136 67	50 00
Re Armstrong—McCarty v. Cowan	"	121 07	93 82	63 65	30 17
Truax v. Williams	"	72 37	67 37	23 70	43 67
Re Sproule—Sproule v. Sproule	"	47 23	46 43	40 17	5 18
Anderson v. Anderson	"	121 00	111 10	52 50	58 60
Bascom v. Bascom	"	70 15	58 85	29 40	27 45
Re Orchard	"	77 97	74 37	59 80	14 57
McFarlane v. Kerr	"	101 24	96 11	72 77	23 34
Wright v. Dickenson	"	68 39	61 89	31 30	28 59
Stewart v. Stalker	"	87 42	77 42	38 10	39 32
Morrish, *Re*	"	105 33	100 33	64 60	36 33
Widdes v. Widdes	"	53 51	53 51	23 51	30 00
Morrison v. Imperial	"	59 92	59 92	34 92	25 00
Needham, *Re* Ross v. Needham	"	196 66	187 06	124 90	62 16
Ritchie, *Re* Jewry v. Ritchie	"	98 16	.. ..	.. ..	.. ..
Rivet v. Desourdi	"	207 95	188 95	130 15	58 85
Black v. Moore	"	125 85	118 85	89 05	29 80
Grange v. Geddes	"	44 81	45 33	30 47	14 86
Row v. Wert	"	40 50	34 17	30 50	3 67
Re Smith, Lazier v. Smith	"	216 37	167 39	115 47	51 92
Scott v. Langevin	"	50 39	49 09	31 75	17 34
Patterson v. Dubingen	"	45 75	45 75	29 85	17 20
Striker v. Harris	"	73 70	73 70	49 85	23 85
Ward v. Ward	"	26 76	26 76	22 00	4 76
Lazier v. Russell	"	29 93	29 43	24 50	4 93
Genore v. Langevin	"	29 00	28 00	23 10	4 90
Cotter v. Brummell	"	33 49	30 99	27 70	5 29
Grange v. Geddes	"	19 84	19 84	15 30	6 24
Russell v. Brain	"	70 81	58 81	22 80	36 01
Re Shaw	"	150 22	126 30	86 41	39 89
Whitelaw v. Moore	"	80 76	66 89	29 13	37 76
Green v. McElroy	"	76 64	75 06	51 78	23 44
Schultz v. Squire	"	56 24	50 24	23 91	26 33

RETURN of all cases in which Bills of Costs have been taxed during the years of 1876 and 1877 for Guardians *ad litem.—Continued.*

STYLE OF CASES.	Guardian.	Brought at.	Revised at.	Solicitor's Fees.	Disbursements.
Ellis v. Vanderlip	J. Hoskin.	$25 94	$21 36	$17 68	$3 84
Dolan v. Denuehy	"	37 17	30 23	25 56	4 67
Patrick v. Spotswood	"	35 42	30 42	28 60	2 82
Shorter v. Shorter	"	78 07	79 01	52 89	26 12
Palmateir v. Palmateir	"	52 09	55 39	29 24	26 15
Keough v. Keough	"	58 31	58 31	42 50	15 81
Chisholm v. Chisholm	"	85 29	85 29	62 50	22 79
Barnes v. Barnes	"	97 30	97 30	50 30	47 00
Re Thompson, —Thompson v. Thompson	"	78 84	78 84	59 30	19 54
McCaughley v. Thompson	"	12 10	12 10	10 00	2 10
Barber v. Cuthbert	"	114 57	100 47	61 30	39 17
Arthur v. Arthur	"	177 82	168 26	46 10	122 16
Re Hughes—Hughes v. Hughes	"	185 67	122 88	92 06	30 82
Farr v. McKnight	"	21 85	21 85	6 85	15 00
Beemer v. Beemer	"	148 42	127 86	88 69	39 17
Morrison v. Morrison	"	87 01	87 01	54 46	32 55
Re McKay	"	67 68	64 68	48 50	16 18
Murton v. Ball	"	100 93	97 93	69 73	28 20
Erdman v. Erdman	"	77 76	77 76	58 80	18 96
Morden v. Riley	"	66 42	47 23	32 61	14 62
Hermistone v. Hermistone	"	109 85	109 77	72 49	37 28
Johnson v. Marsh	"	29 34	25 96	24 42	1 54
Price v. Bird	"	71 61	66 61	43 70	22 91
Laird v. Laird	"	61 28	58 40	27 92	20 48
Re Davis	"	194 66	194 66	96 66	98 00
Gunn v. Rosbotham	"	23 74	22 02	16 80	5 72
Chambers v. Hartley	"	57 87	56 87	49 00	17 87
Vanstone v. Vanstone	"	58 18	62 18	43 60	18 58
Barker v. Sheppard	"	27 12	28 24	23 60	4 64
Thornton v. Howson	"	101 33	96 83	70 90	25 93
Robinson v. Brown	"	46 98	44 98	28 40	16 58
Harlow v. Brown	"	46 98	45 18	28 20	16 58
Robinson v. Brown	"	105 83	105 85	49 00	56 85
Burnham v. Shaver	"	34 64	27 74	11 05	16 69
Holloway v. Holloway	"	97 98	86 68	51 50	35 18
Paterson v. McGregor	"	95 65	85 09	58 74	26 35
Picken v. Young	"	68 12	65 12	44 30	20 82
Hands v. Mayberry	"	61 76	61 76	40 10	21 66
Code v. Code	"	57 92	56 02	34 00	22 02
Gilchrist v. McEwan	"	77 63	71 28	44 90	27 38
Gilchrist v. McEwan	"	23 28	23 28	19 10	4 18
Bell v. McNeice	"	70 89	56 80	28 41	27 39
Oliver v. Oliver	"	82 26	78 26	40 30	37 96
Drummond v. Drummond	"	74 11	74 11	45 24	28 87
Holliday v. Holliday	"	104 79	94 30	53 61	40 69
Wilken v. McLennan	"	68 99	68 99	40 00	28 99
Crossett v. Crossett	"	80 68	79 49	37 10	42 39
Griffith v. Freed	"	18 76	18 76	15 50	3 26
Smith v. Smith	"	89 47	83 94	57 07	26 87
Hannon v. Hannon	"	116 19	113 19	75 60	37 59
Gram v. Hord	"	67 49	59 49	45 10	14 39
Doering v. Bedford	"	82 33	71 13	44 40	26 73
Young v. Reavel	"	178 15	144 95	95 65	49 30
Gilleland v. Wadsworth	"	288 25	192 25	54 30	137 95
Allison v. Allison	"	117 25	108 85	68 80	40 05
Lazier v. Russell	"	28 14	28 14	21 00	7 14
Ward v. Ward	"	101 41	101 41	61 41	50 00
Liddle *Re* Clapp v. Finley	"	78 98	72 89	42 91	29 98
Gilderslieve v. Cowan	"	103 37	90 84	44 57	46 27
McKenzie v. Latchford	"	48 38	47 88	30 55	17 33
Waring v. Smith	"	26 23	23 23	17 90	5 33
Smith v. White	"	55 44	54 64	28 70	25 94
Brown v. Fair	"	48 44	43 94	38 30	5 64
Williamson *Re* Collings v. Williamson	"	49 58	48 38	27 90	20 48
Roche v. Mooney	"	87 97	77 07	37 10	39 97
Van Allen v. Richardson	"	109 43	108 43	62 18	46 25
Gordon v. Hanna	"	69 19	57 29	24 30	22 99

RETURN of all cases in which Bills of Costs have been taxed during the years of 1876 and 1877 for Guardians *ad litem.—Continued.*

STYLE OF CAUSE.	Guardian.	Brought at.	Revised at.	Solicitor's Fees.	Disbursements.
Sowerby v. Gilroy	J. Hoskin.	$46 68	$46 38	$29 20	$17 18
Hunter v. Loobey	"	42 13	39 54	32 90	6 64
Berry v. Berry	"	89 54	82 88	59 74	23 14
Husband v. Husband	"	90 81	77 25	48 44	28 81
Fraser *Re*	"	154 26	135 53	114 97	20 56
Smith v. Foley	"	117 63	84 75	47 62	37 13
Palmatier v. Matchell	"	49 01	44 31	18 80	25 51
" "	"	30 44	27 59	21 40	6 19
Farncombe v. Farncombe	"	80 95	85 95	48 50	31 45
Miller *Re*—Keison v. Miller	"	136 31	125 26	102 95	22 31
Garner v. Gregory	"	71 09	51 41	29 77	21 64
McTaggart v. McTaggart	"	88 38	78 58	61 80	16 78
Clark *Re*—Shields v. Clark	"	64 65	65 65	45 35	20 30
Flick *Re*—Beal v. Flick	"	76 11	68 58	52 80	15 78
Rutherford v. Rutherford	"	86 55	80 39	47 15	33 24
Lillico v. Lillico	"	96 88	82 98	56 50	26 48
Steele v. Steele	"	69 18	70 18	48 00	22 18
Blow *Re*—Blow v. Blow	"	142 52	149 52	121 05	28 47
McGrath v. McGrath	"	128 26	104 79	60 84	43 95
Fairivan v. Parmenter	"	87 30	74 64	46 30	28 34
Sweetland v. Spittal	"	47 80	46 30	31 20	15 10
Cunningham v. Cunningham	"	93 91	89 61	59 10	30 51
Ackerill v. Bolderick	"	37 50	35 00	29 40	5 60
Faulkner v. Brennan	"	46 35	40 65	34 00	6 65
Stewart v. Vermilyea	"	16 81	9 56	8 10	1 46
Vermilyea *Re*—Phillips v. Vermilyea	"	125 76	101 41	68 15	33 26
Hammond v. Emm	"	68 48	63 48	46 20	17 28
Murphy v. Connors	"	71 12	66 19	41 10	25 09
Campbell v. Carmichael	"	82 36	76 86	59 35	17 51
Esquesing v. McPherson	"	92 49	74 45	52 30	22 15
McKellar v. McKellar	"	102 16	98 16	68 55	29 61
Cameron v. Adams	"	58 51	55 71	36 35	19 36
Keough v. Keough	"	24 55	24 55	20 30	4 25
Weir v. Kean	"	62 64	59 44	32 65	26 79
Wright v. Nix	"	13 71	12 71	9 40	3 31
Kerr *Re*—Kerr v. Silverthorn	"	97 46	96 46	55 90	40 56
Jeffrey v. Jones	"	78 83	77 88	42 00	35 88
Haney v. Flander	"	34 25	31 29	18 17	13 12
Conway v. Robinson	"	37 29	33 27	19 00	14 27
May *Re*	"	34 00	34 00	.. ..	.. ..
Dance v. Mihell	"	61 41	61 41	36 41	25 00
Cassiday v. Cassiday	"	.. ..	111 78	.. ..	.. ..
Sharpe v. Fowlie	"	.. ..	40 00	.. ..	.. ..
Connolly v. O'Reilly	"	.. ..	30 00	.. ..	.. ..
McDonald v. Dobbie	"	.. ..	40 48	.. ..	.. ..
Schultz v. Squire	"	.. ..	21 65	.. ..	.. ..
Greig v. McIndoe	"	20 89	23 39	18 10	5 29
" "	"	15 51	14 51	11 60	2 91
Seymour v. Fluker	"	.. ..	47 51	.. ..	2 30
McMaster v. McLarty	"	.. ..	104 68	.. ..	46 85
Atcheson v. Allen	"	59 75	59 75	.. ..	2 00
Allan v. Martin	J. S. Ewart.	208 60	130 40	121 10	9 30
" "	"	275 48	275 48	272 68	2 80
" "	"	365 58	305 58	279 26	29 32
" "	"	256 60	247 00	223 40	23 60
Lindsay v. Lindsay	J F McDonald	92 67	66 40	32 16	34 24
Johnson v. Johnson	J W H Wilson	152 82	109 21	69 64	39 57
McCargar v. McKinnon	R. C. Smyth	258 12	63 80	38 60	25 20
Plummer v. Plummer	T. Woodyatt	74 40	71 90	45 10	26 80
Bk. B. N. A. v. Logan	H. Hart	52 52	45 42	31 22	14 20
William v. Williams	A. S. Hardy	73 12	48 72	26 80	21 92
Fleming v. Nixon	W. Mallory	52 92	46 86	.. ..	.. ..
McCormick v. McCormick	J. P. Thomas	65 41	62 41	.. ..	.. ..
Yomex v, Alcomabrack	M. Jellitt	23 67	19 47	17 87	1 60
Peterson v. Peterson	J. McKeown	160 66	115 79	90 92	24 87
Carroll v. Sherwood	E. J. Senkler	11 72	11 72	9 84	1 86
" "	"	43 77	43 77	20 80	22 97
Train v. Burgess	A. J. Lloyd	48 44	48 44	.. ..	.. ..
Allan v. Martin	J. S. Ewart	96 83	95 85	92 23	3 60

RETURN of all cases in which Bills of Costs have been taxed during the years of 1876 and 1877 for Guardians *ad litem.—Continued.*

STYLE OF CAUSE.	Guardian.	Brought at.	Revised at.	Solicitor's Fees.	Disbursements.
Allan v. Martin	J. S. Ewart	$207 73	$207 73		
" "	"	275 89	265 89	$258 40	$7 49
" "	"	203 98	164 98	139 73	25 25
" "	"	240 44	240 44	121 54	118 90
" "	"	125 03	125 03	116 40	5 63
" "	"	89 00	89 00	85 40	3 60
" "	"	50 30	50 30	49 10	1 20
" "	"	145 00	112 30	84 80	27 50
" "	"	95 76	95 76	85 93	9 83
Holiday v. Gilroy	"	75 37	73 37	34 90	38 47
" "	"	147 34	135 34	129 01	6 33
Shaw *Re*	"	36 49	34 49	28 40	6 09
Jolly v. Jolly	"	51 41	45 74	32 86	12 88
Kelly v. Kelly	"	65 84	61 58		
Ran v. Reechty	A. Millar	75 33	62 03	35 10	26 93
Lane v. Lane	W. J. Stanton	98 56	81 84	52 70	29 14
" "	G. A. Alcorn	100 31	74 10		
Train v. Burgess	A. J. Lloyd	21 77	18 50	16 81	1 69
Blacmew v. Blacmew	JF McDonald	49 39	41 30	16 52	24 78

T. W. TAYLOR.

STATEMENT of amounts paid out of Court in Suitors' Fee Fund Account during 1876 & 1877.

1876.			
Jan. 1.	By Balance in Court		$3023 98
" 26.	To amounts transferred to the following suits and matters to wipe out overpayments, as per order of the Judges, viz.:		
	E. Smith v. T. Smith	$32 00	
	Re Campbell, McBain v. Holder	16 12	
	Woodside v. Logan	52 29	
		$100 41	
May 9.	" John Hoskin (in McDonald v. McDonald)	50 00	
" 9.	" Wm. Fitzgerald (in McNamara v. Varey)	78 69	
June 25.	" Peter Frank Walker (in McLeod v. McLean)	46 23	
Aug. 24.	" J. B. Cherriman, J. Herbert Mason, } Auditors' Fee to 1st July, 1876.	100 00	
		100 00	
Sept. 8.	" John Downey (in Elliott v. Hunter)	192 28	
Oct. 31.	" Thomas Ferguson, Guardian, (in Moe v. Davis)	81 52	
Dec. 18.	" John Hoskin (in Lynch v. Toomey)	62 51	
" 20.	" John Hoskin (in McGrath v. McGrath)	106 79	
" 31.	Balance in Court		2598 11
1877.			
Jan. 22.	To Bethune, Osler & Moss (in Canada L. C. Co. v. Kennedy), this has been refunded	25 00	
Feb. 27.	" The Provincial Ins. Co. of Canada (in *re* Henderson)	91 38	
April 6.	" John S. Ewart, (in McConnville v. Murphy)	39 81	
May 23.	" John Hoskin (in Crossett v. Crossett)	324 60	
June 28.	" Richard Bayley (in Airey v. Mitchell)	99 50	
July 3.	" British American Assur. Co. (in *re* Henderson)	73 75	
Dec. 31.	Balance in Court		2476 63

I Certify that the above is a correct statement of the balances at the credit of the Suitors' Fee Fund at the beginning and end of the years 1876 and 1877, also of all moneys paid out of said fund during the same years, and the persons to whom paid.

R. P. STEPHENS,
Referee, Chancery Chambers.

RETURN

To an Order of the House for a Return shewing, with respect to the General Hospitals of Hamilton, Kingston, London, Ottawa, Toronto, and the other cities and towns in which Hospitals have been established, the amounts received during 1877 from each municipality in payment of patients' maintenance, and from patients resident of said cities and towns; income from property belonging to Hospitals; value and description of said property; fees charged to residents; fees charged to non-residents; also showing the position of any funds held by the City of London and the County of Middlesex for Hospital purposes. Also, a copy of the agreement between the City of London and the County of Middlesex with reference to such fund.

By Command,

ARTHUR S. HARDY,

Secretary.

Provincial Secretary's Office,
Toronto, *16th January 1879.*

Office of the Inspector of Prisons and Public Charities, Ontario.
Toronto, *17th May, 1878.*

Sir,—I have the honour to transmit herewith, the replies received from the various Hospitals of the Province, in reply to an Order of the Legislative Assembly, dated 4th March last, calling for certain information in regard to the financial affairs, etc., of the said Institutions.

I have the honour to be,
Sir,
Your obedient Servant,

J. W. Langmuir,
Inspector.

The Honourable The Provincial Secretary,
Toronto.

City Hospital,
Hamilton, *March 9th, 1878.*

J. W. Langmuir, Esq.,
Inspector of Asylums, etc.

Sir,—I have the honour to acknowledge the receipt of your letter, requesting a return of the amounts received by this Hospital in payment of the patients' maintenance, and

from what sources they were obtained. In reply, I would submit the accompanying statement for the year 1877. Hoping this will prove satisfactory,

I beg to remain,

Your obedient Servant,

JAMES WHITE, M.D.,

Medical Superintendent.

CITY HOSPITAL, HAMILTON.

RETURN shewing the amount received from each Municipality in payment of patients, for the year 1877, at $1.50 per week.

Ancaster	$21 75
Saltfleet	63 00
Dundas (Town)	15 00
"	12 00
Saltfleet	46 00
West Flamboro'	52 00
Barton	9 00
	$218 75

RETURN shewing the amounts received from patients, residents and non-residents, for the year 1877.

Residents	$393 62
Non-Residents	52 00
	$445 62

RETURN shewing the amounts of income from property belonging to Hospital, and value and description thereof.

NONE.

RETURN shewing the amount of fees charged to residents of Hamilton, and fees charged to non-residents, for hospital treatment, $2.00 per week.

KINGSTON, *16th March, 1878.*

J. W. LANGMUIR, ESQ.,
Inspector of Prisons, etc.,
Toronto, Ontario.

DEAR SIR,—In reference to questions asked in your favour, of the 7th inst., regarding the Kingston General Hospital, for the year 1877, I beg to make the following replies:—

QUES. 1.—"The amount received from each Municipality in payment of patients' "maintenance during the year?"

The Hospital received a donation of $200.00 from the City of Kingston, and the payment of an account rendered for Small-Pox patients, of $52.50, from the same source, but nothing from any other Municipality.

QUES. 2.—"The amount received from patients themselves, shewing, separately, the "sum received from residents and non-residents of Kingston?"

Amount received from Residents	$112 00
" " Non-Residents	616 75
	$728 75

QUES. 3.—"The amount of income, if any, derived from property belonging to the "Hospital, and the value and description of such property.

NONE.

The executors of the late John Watkin, Esq., have paid over the sum of $4,000, bequeathed to the Hospital by that gentleman, said sum to be invested for the benefit of the Hospital.

Ques. 4.—"The fees charged to residents of Kingston, and the fees charged to non-residents, for hospital treatment."

If question No. 4 refers to medical fees, none are charged by the Hospital to patients, the medical gentlemen of the city giving their services gratuitously.

But if the question refers to the amount charged by the Hospital to pay patients; the amount varies from one dollar per day, to one dollar per week, according to the ability of the patient to pay, and the accommodation required.

Yours respectfully,

J. E. Clark,
Acting Secretary, Kingston General Hospital.

P.S.—If I have not correctly apprehended the questions asked, I will be glad to give any other information which may be required.

J. E. C.

Hotel Dieu Hospital,
Kingston, *March 11th, 1878.*

J. W. Langmuir, Esq.,
Inspector of Hospitals, etc.,
Toronto.

Sir,—In reply to the queries contained in your letter of the 7th inst., I have to inform you as follows:—

1st. Amount received from each Municipality in payment of patients. We receive nothing.

2nd. We receive from patients as follows:—

Residents paid in 1877	$438 25
Non-Residents paid in 1877	223 00

Income from property, value and description of such property.

Income from property	$69 54 per annum.
Value of property	1500 00

located in William Street, Kingston, held in trust for us.

No difference made between residents and non-residents in regard to charges.

I consider it only right to state that the second answer requires some explanation. A large number of persons apply for admission, who state they are residents of Kingston, in order more readily to secure admission, I cannot ascertain the number, but believe it to be considerable.

I am, Sir,
Your obedient Servant,

Sister Leatry,
Superintendent.

Treasurer's Office,
London, *April 5th, 1878.*

J. W. Langmuir, Esq.,
Inspector of Hospitals.

Dear Sir—I have the honour to acknowledge the receipt of yours of 1st inst., requesting information touching City Hospital patients in connection with the County.

With this I send a detailed statement for 1877, which I believe will cover all, or nearly all required.

The City Hospital receives no income from property of any kind, the only income is from the interest on debentures deposited in the Federal Bank, by an old Building Society, jointly with the County, on $15,600; interest, thus, on one half to city, about $411.00, County the same.

The County has not paid anything for 1876, and 1877. We have a great deal of trouble with them in consequence of admitting a few poor patients from the County, without the order of the Warden, County Clerk and Reeve of the Township, which it is impossible at certain times to obtain. Poor, sick and destitute persons brought to the Hospital had to be admitted, trusting to the honour of the County to see it rectified.

We are in hopes that when you are here again you will try and make matters, if possible, more satisfactory than at present.

I have the honour to be,
Sir,
Your obedient Servant,

JOHN BROWN,
Treasurer.

LONDON GENERAL HOSPITAL.

STATEMENT in detail of moneys received from paying patients and their municipalities during 1877.

Name.	Municipality.	Total Amount Received.
George Abram	Co. Huron	$3 00
Elijah Cameron	St. Thomas	9 50
William Dunlop	London East	34 50
William Vallier	City	15 00
Hugh Sully	"	6 00
Elijah Hilliard	"	21 90
John McKenzie	Exeter	29 00
Mrs. Helen White	Co. Middlesex	36 00
Richard Williamson	Co. Lambton	26 00
Eva Ross	Toronto	12 00
William Marshall	Co. Elgin	14 50
R. Ford	Brantford	10 00
S. Richardson	City	2 50
James Taylor	Co. Kent	5 50
Phil. Cole	Co. Elgin	19 00
Thomas Wilson	City	2 00
Thomas Kelly	"	36 00
Edward Griffin	"	39 00
John McKeron	Petrolia	3 50
William Mill	Strathroy	14 00
James Craig	Co. Huron	36
Sarah Ginn	Wyoming	7 50
Stephen Flynn	City	27 00
Charles Quinn	"	4 00
Michael Savage	"	23 00
Phil. Conton	"	1 00
Mary Davis	St. Thomas	10 00
Mrs. Booker	London East	4 00
Mary Ingles	Strathroy	15 00
Elizabeth Conroy	Bryantown	29 00
Charles Melerish	Strathroy	21 50
Lorenzo Sharpe	Co. Huron	86 00
Eliza Pullon	Strathroy	14 50

Name.	Municipality.	Total Amount Received.
John Campbell	Co. Huron	$5 00
M. A. Baker	City	4 00
Hugh Taylor	Ridgetown	2 50
John Hawkins		7 35
Francis Dickey		4 60
R. Mathison, Esq., Asylum		33 34
		638 55
Mary Thomas, sent by St. Thomas Municipality, account not yet collected		$17 00
Thirty-two patients from Co. Middlesex make a collective stay of 2309 days at 52 cents per day		$1200 68
Less amount collected from Mrs. Booker and Mrs. White, Dunlop		64 50
		$1136 18

County of Middlesex account disputed on account of some of the patients being admitted without the proper order, which order is hard to be got as it has to be signed by the Reeve of the Township, the Clerk of the County and the Warden of the County, and a sick patient cannot go to all this trouble, therefore some of a necessity were admitted trusting to the honour of the County.

STEPHEN GRANT,
Hospital Steward.

April 5th, 1878.

CITY HOSPITAL. REPORT OF COMMITTEE ON SAVING BANK FUND, *Adopted. December 6th, 1873.*

The Committee appointed by this Council to arrange with the County the terms upon which the "Surplus Savings Bank Fund," granted to the City and County for Hospital purposes should be used, beg to report, that they met the Committee appointed by the County Council, and that the two Committees have unanimously settled the terms upon which the fund will be made available for the benefit of the City and County, the City agrees to open present Hospital to County patients, and to expend in erecting a suitable Hospital, within a reasonable time, the sum of six thousand dollars; the present Hospital and new Hospital "to embrace the reception of patients from the City of London and the County of Middlesex, respectively."

Annexed are the terms settled by the Joint Committees, and which the Council is asked to confirm.

BENJ. CRONYN,
On Behalf of the Committee.

A meeting of the Joint Committees of the City and County Councils, appointed to consider and settle the terms upon which the surplus Savings Bank Fund, granted to the City and County for hospital purposes, should be utilized, was held in the Mayor's office on Wednesday evening last, the following gentlemen being in attendance: Mayor Campbell, Alderman Cronyn, Alderman Moffat, Alderman Smyth, Mr. M. G. Munroe, Warden of Middlesex; Mr. Robert Dreamey, Reeve of North Dorchester; Mr. S. McLeod, Reeve of Parkhill; Mr. John Waters, Reeve of East Williams; and Mr. James Armstrong, Reeve of Westminster.

His Worship the Mayor was called to the chair, and Alderman Cronyn appointed Secretary.

Moved by Mr. J. Armstrong, seconded by Alderman Smyth, that this meeting is strongly of opinion that the fund granted as before mentioned should be utilized as soon as possible. Carried unanimously.

Moved by Alderman Smyth, and seconded by Mr. Armstrong, that each of the Committees do report to their respective Councils, recommending that the trust fund be vested in four trustees, consisting of the Judge of the County Court, the Warden of the County,

the Mayor of the City, and the President of the Board of Trade for the City of London, and their successors in office, in trust, to invest the moneys in Canadian Government stocks, County, City or Town debentures, or on first Mortgages on improved farm lands; the loans not to exceed half the cash value of the real estate, exclusive of buildings. The annual produce of the investments to be held for the benefit of the City and County in equal shares, and to be applied towards the maintenance and care of the county and city patients in the City Hospital in the following manner:—

1. The Trustees shall pay to the City annually its share of the annual profits in trust fund, to be applied towards the care and maintenance of the city patients.

2. Out of the share of the County in the annual profits, the Trustees shall pay the City at such average rate per day, for every patient the County may send to the City Hospital during the year, such rate to be ascertained as follows: To the gross cost of the maintenance, attendance upon, and medical and other care of all the patients during the the year; add for rent of Hospital six per cent. on eight thousand dollars, the amount arrived at to include site for Hospital and six thousand dollars to be expended by the City in erecting a Hospital within a reasonable time. Add also such sum as may have been necessarily expended for repairs and insurance. Take the number of patients for the year, and ascertain the average cost per day for each patient. If the share of the County in the profits of the fund for any year shall exceed the charge made upon it, the excess shall be retained by the Trustees and applied in like manner in the following year or years. If the County shall in any year send a greater number of patients than shall be sufficient to exhaust its share in the profits, it shall at the end of the year pay the City for the excess at the like rate per patient.

3. The above arrangement to remain in force, and the charge of rental not to increase for all time to come, in so far as the rights of the County to send patients to the extent of the fund. But only to continue for five years from 1st January, 1873 as to the number of patients beyond those sufficient to exhaust the share of the County in the profits of the fund. After the termination of the five years, such excess of patients to be paid for on the same basis as to maintenance, attendance upon, medical and other care, and insurance, but the charge for rental to be estimated at the end of each year, at the rate of six per cent. upon the total cost for buildings and repairs, such cost to be ascertained by adding to the eight thousand dollars any further amount that it may have been found necessary to lay out upon the hospital property in building to increase the accommodation, or otherwise.

4. The above agreement to commence from the first day of January next; the County to have with the City the benefit of the present occupation of premises rent free.

5. A proper deed of trust shall be prepared by the City and County solicitors, providing for the due application of funds, and the execution thereof procured as soon as possible. Carried unanimously.

The Committee of the County Council submitted the following report, in connection with this measure, to that body yesterday afternoon, which was unanimously adopted:

Your Committee beg leave to report that they have met the committee appointed by the County Council, and that the joint committee have unanimously agreed upon a basis for establishing a joint hospital, and supporting the same; and your Committee respectfully recommend that said basis, which we now submit, be adopted.

General and Marine Hospital,
St. Catharines, Ontario, *22nd March, 1878.*

Sir,—In reply to your favour of the 7th inst., I have to state as follows:—

1st Amount received from Municipalities:—

City of St. Catharines	$600 00
County of Lincoln	200 00
Town of Thorold	110 00
	$910 00

2nd, Received from Patients :—

Residents of St. Catharines	$161 00
Non-Residents	234 00
	$395 00

3rd, Amount of Income ..... None

No fees for hospital treatment have ever been charged to either Residents or Non-Residents at this Hospital.

I have the honour to be,
Sir,
Your Obedient Servant,

THOMAS BURNS,
Treasurer.

J. W. LANGMUIR, Esq.
Inspector of Hospitals, etc., Toronto.

OTTAWA, *March 13th, 1878.*

SIR,—I beg to acknowledge the receipt of yours of the 7th inst., calling for certain information, regarding some of the items contained in the income of the County of Carleton General Protestant Hospital for the year ending September 30th, 1877, which are as follows :—

1st Municipal Grant.

City of Ottawa :

Yearly grant for the year 1876, received in 1877	$800 00
3 quarterly payments on account of grant for 1877	600 00
In payment of burial of Pauper patients	66 00
	$1466 00
County of Carleton : Grant for the year 1877	500 00
County of Lanark : Grant for the year 1877	100 00
	$2066 00

2nd, Amount received from Patients themselves :—

Residents	$278 75
Non-Residents	267 40
	$546 15

3rd, Income derived from property belonging to the Hospital ..... None

4th. Fees charged to residents and non-residents are the same ; ranging from $2.00 to $5.00 per week.

I have the honour to be,
Sir,
Your obedient Servant,

ALEXANDER WORKMAN,
Treasurer,
County of Carleton General Protestant Hospital

J. W. LANGMUIR, Esq.,
Inspector of Hospitals, etc., Toronto.

R. C. General Hospital,
Ottawa, *March 8th, 1878.*

J. W. Langmuir, Esq.,
Inspector of Hospitals, etc.,

Sir,—I beg, in reply to your favour of the 7th March, calling for information respecting the hospital revenues, to state that we received during the year 1877 :

1st, From the Municipality of Carleton	$100 00
From the Corporation of Ottawa	800 00
2nd, From patients (residents)	404 47
" " (non-residents)	218 00

3rd, We receive no income from property belonging to the Hospital.

4th, $3 per Week was charged to 10 Resident patients.
50c. per day to 8 " "
25c. per day to 26 " "
$3.00 per week charged to 12 Non-resident patients.
50c. per day to 5 " "
25c. per day to 13 " "

Hoping that this statement may prove satisfactory,
I have the honour to be,
Kind Sir,
Your Humble Servant,
Sister E. Lavoie.

Toronto General Hospital,
April 4th, 1878.

Sir,—In reply to your communication of 1st inst., I beg leave to furnish you with the following particulars :—

1st. The amounts received from the various municipalities during the year 1877, were as follows :—

Toronto	$14,457 30	Vaughan	$130 20
E. Whitby	99 50	Uxbridge	9 60
Etobicoke	42 50	Peterboro'	26 80
Scarboro'	164 00	Watt	50 00
Milton	59 50	Forest	19 20
Orillia	8 00	Besby	12 00
Belmont	56 70	Osbourne	21 00
Markham	106 00	Mono	2 80
Yorkville	32 20	Barrie	13 60
Simcoe	68 00	Oshawa	57 00
York	600 00	Strawford	23 20
St. Vincent	66 90	Garafraxa	14 40
Wingham	30 00	Draper	6 00
Stratford	99 50		
Pickering	20 80		
Cobden	39 90		
			$16,330 80

2nd. The amounts received from patients during same period were as follows :—

From 107 City Residents	$819 55
" 135 residents of other places	1996 88

The income from Hospital property for the year 1877 was $10,779.86.
The value of said property as shewn by the accounts of the Trust was $284,484.86.

The description of said property is as follows :

Part of a block of land between Richmond, Queen and Brock streets composed of Lots No. 1 to 6, S. Queen Street, 9 and 10 W. Brock Street, and 1 and 2 W. Richmond Street.

Part of a block between Brock, Brant, Adelaide and Richmond Streets, composed of Lots 1 to 8 East Brant Street, 1 to 5 South Richmond Street, 5 to 8 North Camden Street, 10, 11, 12, 13, 15, 16 S. Camden Street, 1 and 2 West Brock Street, 1 to 8 West Adelaide Street.

One block between King, Adelaide, Peter and Widmer Streets.

One block between King, Adelaide, John and Widmer Streets.

Part of a block corner of King and York Street, composed of lots 5 to 12 S. King Street, West, and 1 to 4 West York Street.

One brick house and lot on west side of Bay Street.

One block of land consisting of lots 6 and 7 S. Carleton Street, East, and 6 and 7 North Spruce Street.

Part of a block of land on Gerrard Street, East, on which the Hospital is erected, together with the buildings thereon.

One block between Gerrard, Oak, Sumach and River Streets, also the following lots in various places.

Lots 5 and 10 S. Oak Street.
" 8 N. Beech Street.
" 10 and 12 S. Beech Street.
" 8 and 9 W. River Street.
" 13 E. River Street.
" 11 S. St. David's Street.
" 11 N. Sydenham Street.
" 35 Junction King and Queen Streets.
" 34 to 38 South King St. West.
" 3 to 10 East St. Lawrence Street.
" 3 to 6 West St. Lawrence Street.
" 16 to 18 North South Park Street.
" 17, 20, 21 South South Park Street.
" 17, 18, 19 Palace Street
" 20, 21 Palace Street.
" 6 King Street, East.
" Lots 5 to 7 North Stanley Street.

4th. The rates charged to residents and non-residents of Toronto were the same, viz.: forty cents per day. Previous to 1st February, 1877, the rate charged to residents and non-residents was fifty cents per day.

I have the honour to be,
Sir,
Your obedient servant,

A. Miller,
Ass't Secretary.

J. W. Langmuir, Esq.,
Inspector of Asylums,
Toronto.

St. Joseph's Hospital Asylum,
March 8th, 1878.

Dear Sir,—I received your letter this morning, and give you the required information.

I made it up to December, 1877. With regard to the form, you will understand

that it is connected with the Hospital and House of Providence, consequently the income includes both. I trust this will meet all your requirements and give you all necessary information.

I remain, dear Sir,
Your's most respectfully,
SISTER M. FRANCIS JOSEPH.

To J. W. LANGMUIR, ESQ.,
Inspector of Prisons, etc.,
Toronto.

Amount of money received from resident patients	$181 00
Amount of money received from non-resident patients	95 00
From County of Wellington for patients	400 00
Amount derived from property	1,650 00
Total	$2,326 00

Property consists of about 75 acres, of which 45 belong to the Episcopal Corporation.

Amount charged for patients who can pay, is $4 per week for all, whether town or County.

GUELPH GENERAL HOSPITAL,
GUELPH, *March 11th, 1878.*

J. W. LANGMUIR, ESQ.,
Toronto.

SIR,—In reply to your's of 7th March, I have the honour to report as follows:—

In reply to your first question.

1st. "The amount received from each Municipality in payment of patients' maintenance during the year 1877."

Answer—Nothing.

2nd. The amount received from patients themselves, shewing, separately, the sum received from residents and non-residents of Guelph.

Answer—From residents of Guelph	$132 25
Non-residents of Guelph	26 00
Total	$158 25

3rd. "The amount of income, if any, derived from property belonging to the Hospital, and the value and description of such property."

Answer—None.

4th. The fees charged to residents of Guelph, and the fees charged to non-residents, for hospital treatment.

Answer—Pay patients are charged $4.00 per week, without respect to locality.

Hoping the above will be satisfactory,

I have the honour to be,
Sir,
Your obedient Servant,

EDWIN NEWTON,
Treasurer, Guelph General Hospital.

(No. 21.)

Copies of all receipts given by individuals for compensation for lands to the Commissioners appointed to settle the Boundary line between the Provinces of Upper and Lower Canada, now the Province of Ontario and Quebec, in virtue of the Act of 1860. Also, for the names of persons to whom conveyances have been made, and the numbers of the lots so conveyed by said commissioners, in virtue of sub-section 1 of section 4, of 23 Vic. cap. 26, so far as the same may be found in the Department of the Commissioner of Crown Lands. (*Not Printed.*)

ERRATA.

On page 2, line 18, for "south" of the said river read "source" of the said river.
On page 3, fourth line from foot, for Rainy "River" read Rainy "Lake."
On page 7, under head "Inducements to Settlement," second line, for "southern" read western."
On page 27, first line, for "York" read "Nelson," and on sixth line, for "western" read eastern."
On page 40, fourteenth line from top, for "most" read "more."
On page 63, sixteenth line from foot, for "north-east" read "north-west."

HUDSON'S BAY
JAMES BAY
MANITOBA
NORTH WESTERN ONTARIO
LAKE SUPERIOR
UNITED STATES
MICHIGAN
A MAP OF
NORTH WESTERN ONTARIO

NORTH WESTERN ONTARIO:

ITS

BOUNDARIES, RESOURCES

AND

COMMUNICATIONS.

PREPARED UNDER INSTRUCTIONS FROM THE ONTARIO GOVERNMENT.

Toronto:
PRINTED BY HUNTER, ROSE & CO., 25 WELLINGTON STREET WEST
1879.

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NORTH WESTERN ONTARIO,

ITS

Boundaries, Resources and Communications.

By the award of the Arbitrators, to whom was referred the duty of determining the Northern and Western Boundaries of the Province of Ontario,* a vast and magnificent territory has been declared to be within the jurisdiction of the Ontario Government and Legislature. This fine region contains within its limits, timber lands of great value, rich and varied mineral deposits, rivers and lakes of noble proportions,—abounding in fish, and opening up remote districts to travel and commerce,—and touches at once the head waters of the St. Lawrence navigation and the shores of a great northern sea, the treasures of which, when sought with the ardour and appliances of modern enterprise, may yield a return not even dreamed of by those old explorers and navigators who were most sanguine of its resources. The possession of such a country necessarily entails upon its rulers some burdens and many responsibilities. To preserve peace and order, to administer justice, to maintain civil rights, to encourage settlement, to improve existing means of communication, to promote education, are duties coming, under the law, within the functions of Provincial authority. It is therefore important to ascertain the advantages likely to accrue to the people of Ontario from the assumption of the new or additional obligations incidental to the possession of this extensive domain.

The Boundaries.

The question of boundary set at rest by the award, had been the subject of much laborious investigation.† The Dominion Government contended that the northern boundary of Ontario was the height of land forming the watershed of the St. Lawrence and great lakes, and skirting, at distances varying from fifteen to fifty miles, the northern shores of Lakes Superior andNepigon. The western boundary, it was contended, was to be ascertained by a line drawn due north

* Con. Statutes (Ont.) cap. iv. The Arbitrators were, Chief Justice Harrison, Sir Francis Hincks, and Sir Edward Thornton, the British Minister at Washington.

† See Report on the Boundaries of Ontario, by David Mills, 1873; also an Investigation o the U Boundaries of Ontario, by Charles Lindsey, 1873.

from the confluence of the Ohio and Mississippi Rivers, and which was found to be in longitude 89 deg. 9 m. 27 sec. west. Such a line would have intersected Thunder Bay, divided the existing settlements on its shores, alienated from Ontario a large district—including the Village of Prince Arthur's Landing, the population gathering round Fort William, the site of the projected terminus of the Canadian Pacific Railway, and the Townships of Blake, Crooks, Pardee, Paiponge, Oliver, Neebing, and McIntyre, already under Ontario jurisdiction,—and left within the Province, only a narrow strip north of the lakes and south of the height of land. Opinions were divided as to the rights of the Province beyond the boundaries contended for in behalf of the Dominion, but it will probably be found that the decision of the arbitrators is, on the whole consistent with equity, convenience, and public policy. The award declares that the following are and shall be the boundaries of the Province of Ontario, namely :—"Commencing at a point on the southern shore of Hudson's Bay, commonly called James Bay, where a line produced due north from the head of Lake Temiscamingue would strike the said south shore, thence along the said south shore westerly to the mouth of the Albany River, thence up the middle of the said Albany River and of the lakes thereon to the south of the said river at the head of Lake St. Joseph, thence by the nearest line to the easterly end of Lac Seul, being the head waters of the English River, thence westerly through the middle of Lac Seul and the said English River to a point where the same will be intersected by a true merdional line drawn northerly from the international monument placed to mark the most north-westerly angle of the Lake of the Woods by the recent Boundary Commission, and thence due south following the said meridional line to the said international monument, thence southerly and easterly following upon the international boundary line between the British possessions and the United States of America into Lake Superior. But, if a true meridional line drawn northerly from the said international boundary at the said most north-westerly angle of the Lake of the Woods shall be found to pass to the west of where the English River empties into the Winnipeg River, then and in such case the northerly boundary of Ontario shall continue down the middle of the said English River to where the same empties into the Winnipeg River, and shall continue thence in a line drawn due west from the confluence of the said English River with the said Winnipeg River until the same will intersect the meridian above described, and thence due south following the said meridional line to the said international monument, thence southerly and easterly following upon the international boundary line between the British possessions and the United States of America into Lake Superior."

AREA.

The district included within these boundaries is of equal if not of greater area than the whole of the rest of Ontario, exclusive of the Lakes Ontario, Superior Huron, and Erie. Omitting those lakes, the Province, within the limits

embraced in the proposition of the Dominion, contained about 64,000,000 acres, or 100,000 square miles of territory. From the Quebec boundary line—from Lake Temiscamingue to James Bay—to the Lake of the Woods, the distance cannot be much less than seven hundred miles; while, measured from north to south, the new territory covers a breadth of country varying from over three hundred to one hundred miles. The Province of Ontario will consequently, in future, possess an area of fully 200,000 square miles. This is 80,000 square miles greater than the area of the United Kingdom; only 12,000 square miles less than the whole German Empire; only 2,000 square miles less than France; and equal to the combined areas of Holland, Portugal, United Italy, Switzerland and Belgium. The awarded territory, alone, possesses an area greater by 20,000 square miles than the group of countries just named, excepting Italy.*

Population.

The present population of the territory is chiefly confined to the settlements on the north or north-west shore of Lake Superior, and in the valley of the Kaministiquia, to the colony at Fort Frances, on Rainy River, to a few settlers and Hudson's Bay officials at Moose and Albany on James Bay, and to the Indians, who are to be found mostly at Rainy River, the Lake of the Woods, Lac Seul, and Pigeon River. A few Half-breeds and christianized Indians are also settled at Islington, on the Winnipeg River, and around some of the Hudson's Bay Company's factories. The total population, including, of course, the Thunder Bay settlements, is probably under 10,000, half of whom are Indians and Half-breeds.

Lakes and Rivers.

In the more southerly portion of the territory lies the chain of rivers and lakes forming what has been popularly known as the Dawson Route, from Thunder Bay to Fort Garry. The western central portion is intersected by the Canadian Pacific Railway from Fort William to Rat Portage. The principal rivers of the territory are:—The Albany, flowing north-eastward to James Bay from Lake St. Joseph, which lies on the northern boundary line, about midway between the Bay and Winnipeg River; English River, which, leaving Lac Seul, after throwing off a branch to the southward, finds its way to the Winnipeg; the Seine, a fine stream, that, coming from the north-east, is finally lost in Rainy Lake; the Manitou, flowing due south from the lake of that name to Rainy River; the Kaministiquia and its confluent the Matawin, falling into Thunder Bay; the Moose River, emptying itself into James' Bay, and which divides into three large branches, known as the Missinibi, flowing northward from Lake Missinibi, just

* Mr. Devine, Deputy Surveyor-General of Ontario, gives 97,000 square miles as a rough approximate estimate of the area of the awarded territory. Other authorities, however, consider 120 to 140,000 sq. miles to be its probable extent.

north of the height of land that divides that lake from the head waters of the Michipicoton River; the Mattagami, or South Branch of the Moose; and the Abbitibbe, which runs from Lake Abbitibbe, lying upon but chiefly to the westward of the Quebec and Ontario Boundary line,—until it joins the main stream to the south of Moose Factory. Should the difficulties attending the passage of Hudson's Straits prove to be a more serious hindrance to their navigation than modern appliances can successfully overcome, the tendency would be to give to Ontario the benefit of any traffic that might be generated in Hudson's Bay, or on its coasts, and which would seek an outlet by way of the Moose or Albany Rivers, or by other means of communication with the great lakes.

Agricultural Capacity.

The value of the territory in an agricultural sense, will have to be largely determined by the facilities afforded for the development of other industries. Should its fisheries, its forests, and its mines yield a return at all proportionate to present indications, the agriculturist will find an ample demand for the produce of large sections of country which will well repay cultivation. In noticing the features and resources of the territory more in detail, it will be most convenient roughly to divide it into two sections, one that may be generally described as lying between Lake Superior and Lake of the Woods, the other between Lake Superior and James Bay.

WESTERN DIVISION.

Lake Superior to Lake of the Woods.

From Fort William, at Thunder Bay, to the Lake of the Woods, according to the course taken by the Canadian Pacific Railway, which crosses the waters of the latter at Rat Portage, its northern extremity, the distance is 298 miles.* The Dawson route, which, following the navigable waters, curves to the southward until it reaches the International Boundary line, which it follows until the North-west Angle is reached—involves a journey of 357 miles.† The latter may in fact be described as the arc of a circle of which the railway line is the chord. South of the railway, and connecting it at various points with the water route, are innumerable lakes and streams, some navigable for large boats, others with occasional portages, for canoes, so that it has been said an Indian in his canoe may traverse the whole region with little impediment or difficulty.

* Report Canadian Pacific Railway, 1877.

† Report Public Works. Sess. papers (Canada), 1875.

The Dawson Route.

The Dawson Route was originally designed to form a means of communication through Canadian territory with the Red River Settlements. The partial construction, however, of the Canadian Pacific Railway, and the completion of railway communication between Duluth and Red River, have supplanted the older route, which must henceforth be regarded mainly in connection with local colonization and industries. To this object the fine road from Thunder Bay to Lake Shebandowan, the Fort Frances Lock on Rainy River, and numerous improvements on the intermediate waters and portages may all be made largely subservient. A brief description of the route itself will give a very fair idea of the peculiar characteristics of the region it traverses.* From Thunder Bay to Lake Shebandowan by road, the distance is 45 miles. The remainder of the route is represented as follows :—

	Miles.	Miles.
Lake Shebandowan		18·00
Portage	0·75	
Lake Kashebowie		9·00
Height of Land Portage	1·00	
Lac des Mille Lacs		18·50
Baril Portage	0·25	
Lake Baril		8·00
Brulé Portage	0·25	
Lake Windegoostegan		12·00
French Portage	1·75	
Lake Kaogassikok		15·00
Pine Portage	0·38	
Lac deux Rivieres		1·22
Deux Rivieres Portage	0·40	
Lake Sturgeon		16·00
Maligne Portage (lift)		
River Maligne		10·00
Island Portage	0·06	
Lake Nequaquon		17·00
Nequaquon Portage	3·25	
Lake Nameukan		15·00
Kettle Falls Portage	0·12	
Rainy Lake		44·00
Fort Frances Portage (now avoided by the Lock)	0·12	
Rainy River and Lake of the Woods, to North-west Angle		120·00
	8·33	303·72
To Rat Portage is 35 miles further		

We shall notice presently the method by which it is suggested the necessity for transhipment at the portages may be overcome, and a journey along the whole route be performed with comparative ease. Meantime, it is worthy of notice that the settlers along a line of country, over 300 miles in extent, may secure com-

* Report Public Works. Sess. papers (Canada), 1875.

munication by the cheap and ready means afforded by a series of splendid water stretches, varying from one to one hundred and twenty miles in length, and interrupted by only eleven portages, eight of which are less than a mile, and two under two miles, while only one exceeds three miles in length. The facilities for communication are not, however, actually confined to the waters on the line of the Dawson Route. South of the Thunder Bay and Shebandowan Road, are the Kaministiquia and Matawin Rivers, both fine and navigable streams, and, along the International Boundary line, are Pigeon River, Lake Sageniga and Basswood Lake, connected with Nequaquon Lake, already mentioned as a link in the chain of the Dawson Route. From the north-east, navigable by boats for 30 miles from its mouth, and for over 100 miles for the passage of timber, the Seine empties itself into Rainy Lake at Sturgeon Falls, while the Manitou—also a fine river—approaches the same lake from a more northerly source.

The Canadian Pacific Railway.

The Canadian Pacific Railway has, meantime, become a most important factor in connection with the colonization of the region under consideration. It was originally intended that the line, after leaving Fort William, should deflect to the southward, in order to touch the water route at Sturgeon Falls at the head of a navigable arm of Rainy Lake. By the construction of the Lock at Fort Frances and the removal of a few obstructions in the Rainy River, an unbroken line of some 200 miles of regular communication would have been established between Sturgeon Falls and the crossing of the Lake of the Woods, at any spot determined upon whence another section of the railway would have been constructed to Red River But, for engineering reasons, the railway has been carried farther north, and now first touches the navigable waters at Port Savanne, situated at the northern extremity of Lac des Mille Lacs, 71 miles from Thunder Bay.

Improvements of the Lake Route.

The best mode by which traffic may be maintained between Lac des Mille Lacs and Lake of the Woods, has been the subject of investigation before a Committee of the House of Commons.* At Lac des Mille Lacs, the height of land is reached separating the waters that flow into Lake of the Woods from those that find their outlet in Lake Superior. From Port Savanne to the head of Rainy Lake, the distance is about 112 miles, with 6½ miles of portaging. Adopting the suggestions of Mr. Hugh Sutherland, Superintendent of Public Works in the North-west, the Commons Committee, in their report, advised the construction of tramways upon the portages between Port Savanne and Kettle Falls, to be worked with light narrow-guage cars drawn by horses, the cars being run on the barges

* Report Select Standing Committee on Immigration and Colonization, House of Commons, 1878.

and thus transferred with their freight, without breaking bulk or requiring transshipment. Mr. Sutherland was of opinion that these works could be executed for a sum of $150,000 in one season, and "that they would lead to the colonization of cultivable tracts along Rainy River, and other ports of the Dawson Route, and also furnish the Province of Manitoba with increased facilities for obtaining lumber at a much cheaper rate than at present." What this would do for the lumberers of Ontario will be noticed further on. To complete the information respecting the accessibility of this portion of the territory it is only needful to add, that the Canadian Pacific Railway is being rapidly completed to English River, 113 miles west from Thunder Bay, and that the link between Rat Portage and Selkirk on Red River, 23 miles north of Winnipeg, with which it is connected by railway, is also under construction. The country lying directly west of the North-west Angle of the Lake of the Woods was long since rendered accessible by a good road from the Angle to Fort Garry.

Inducements to Settlement.

Having noticed the means of access to, and internal communications of the southern portions of the territory it becomes necessary to consider what attractions it may possess in itself to the settler or speculator. The exhaustive explorations of Canadian Pacific surveyors and their associates have done most towards affording information on this head.

Kaministiquia Valley.

Professor Macoun,* in his report to the Dominion Government, after repelling the current opinion that the western shores of Lake Superior are unfit for settlement on account of the severity of the climate, and remarking that "the vegetation around Lake Superior is noted for its luxuriance," thus describes the aspect of the country in the vicinity of the Kaministiquia:—"As the traveller proceeds up the river, roses (*Rosa blanda*) begin to appear. By the time two miles are passed, black-ash (*Fraxinus sambucifolia*) shows on the banks, and the undergrowth becomes almost identical with that of the rear of Hastings and Frontenac, on the shore of Lake Ontario. A few miles further, and forms peculiar to a dry soil begin to take the place of those seen further down, while the alluvial flats along the river support a most luxuriant growth of just such plants as would be seen on any river bottom in Eastern or Central Canada. Thickets of wild plums (*Prunus Americana*), three or four different cherries, gooseberries, currants, raspberries and strawberries grow in profusion, interspersed with various species of Viburnum and other caprifolaceous plants. The herbaceous ones were very numerous and luxuriant, and these, including the wild pea (*Lathyrus venosus et ochrocolencus*), and the vetch (*Vicia Americana*), caused such tangled thickets that it was almost an impossibility to force our way through them. Wild hops (*Humulus Sapulus*),

* Appendix C to Report Canadian Pacific Railway, 1874.

climbed up almost every tree. For the whole distance up to Kakabeka Falls there was a constant influx of new species having a westward tendency. Between Kakabeka Falls and the mouth of the river I detected 315 species, all of these being natives of Hastings except eighteen." Professor Macoun adds:—"I could see nothing in the flora to lead me to doubt the feasibility of raising all the cereals in the valley of the Kaministiquia, a valley said by Professor Hind to contain an area of more than 20,000 acres exclusive of the Indian reservations." Nor is Professor Macoun at all singular in his estimate of the attractions of the Kaministiquia valley.

The Rev. George (now Professor) Grant, in his popular work* says of the same district:—"The flora is much the same as in our eastern provinces; the soil light, with a surface covering of peaty or sandy loam, and a subsoil of clay, fairly fertile and capable of being easily cleared. The vegetation is varied, wild fruits being especially abundant, raspberries, currants, gooseberries and tomatoes; flowers like the convolvulus, roses, a great profusion of asters, wild kallas, water lilies on the ponds, wild chives on the rocks in the streams, and generally a rich vegetation. It is a good country for emigrants of the farmer class. The road, too, is first-rate and the market is near. "The Valley of the Kaministiquia," he goes on to say, "is acknowledged to be a splendid farming country. Timothy grass was growing to the height of four feet on every vacant spot from chance seeds. A bushel and a half of barley, which was all a squatter had sown, was looking as if it could take the prize at an Ontario Exhibition." Thirty years before Professor Grant's visit, Sir George Simpson had been equally struck with the evidences of fertility of this region. He says:—†"The river (Kaministiquia) during the day's march passed through forests of elm, oak, pine, birch, &c., being studded with isles not less fertile and lovely than its banks; and many spots reminded us of the rich and quiet scenery of England. The paths of the portages were spangled with violets, roses, and many other wild flowers, while the currant, the gooseberry, raspberry, plum, cherry, and even the vine, were abundant. All this bounty of nature was, as it were, imbued with life by the cheerful notes of a variety of birds." Remembering that the country so enthusiastically described is contiguous to a mineral region of extraordinary richness, that the produce raised in the Valley of the Kaministiquia can be readily conveyed by water to the whole of the north or west shores of Lake Superior, and that the terminus of a transcontinental railway is close at hand with all the local demand that implies, little more need be said as to its attractiveness to the agricultural settler.

Valley of the Matawin.

Proceeding westward with Professor Macoun, we find him referring in the following terms to the Valley of the Matawin, a confluent of the Kaministiquia.

* Ocean to Ocean, p. 28.

† Overland Journey Round the World, 1841-2, Vol. p. 36.

*" At the Matawin, vegetables of every description were growing luxuriantly, but more especially Timothy hay which seems to be peculiarly suited to the region round Thunder Bay. Many of the stalks were four feet in length with heads fully eight inches long. After passing the Matawin the soil changes to a reddish clay, but there is no change in the vegetation. The flora of the region indicates a moist climate, with a sufficiency of warmth to bring seeds in all cases to perfection. When the country becomes cleared up—which will be in a few years—either by accidental fires or by those of the settler, a marked change will take place in the climate. It will become drier and all kinds of grain will ripen much earlier. Coniferous trees, with a thick coating of moss, cover the greater part of the country; when these are gone a new crop of trees will spring up, but they will be deciduous ones, and the country will probably be less moist and warmer."

The Height of Land.

In the immediate vicinity of Lake Shebandowan there is little land fit for cultivation, but there is some fine land in the valleys and on the slopes in many places at no great distance, especially west of the Kashabowie Portage. There are scattered groups of red and white pine, but the principal forest growth is birch, oak, aspen, and scrub pine. The height of land is passed, and Lac des Mille Lacs is reached, surrounded with a continuous forest of spruce, balsam, aspen, and birch, with a sprinkling of red and white pine, and occasionally groups of Banksian pine. Baril Lake presents, according to Mr. Macoun, much the same characteristics as Lac de Mille Lacs.

A Pine Region.

But now the aspect of the country changes. On the shores of Lake Windegoostegon are large groves of red, white, and Banksian pine, the forest "taking the appearance of the pine lands of Ontario."† This continues till Pine Portage is reached, where "red and white pine attain to a great size, many of them being over three feet in diameter." As there are considerable areas of good land in the neighbourhood of Pine Portage, it may yet be the scene of a profitable conjunction of the lumbering and agricultural industries. From Pine Portage to Rainy Lake, and until the western end of the lake is reached, the country wears a cheerless aspect. Pine of good quality nearly disappears, but although little of it is fit for the sawmill, vast quantities of railway ties might be produced, and easily shipped to Rat Portage. It will be borne in mind, however, that the foregoing applies only to one strip in a vast area of country, and that on the banks of the Seine and other rivers flowing into Rainy Lake, there is a very large growth of both red and white pine. The whole region, in fact, bounded by Lac Seul and English River on the north, and Lake of the Woods on the west, may be said to be a pine-growing territory.

* Report Canadian Pacific Railway, Appendix C, 1874.

† Professor Macoun's Report.

*Rainy River.

We have now reached what, in an economical sense, is the most profitable and important section of the whole region lying between the height of land west of Lake Superior and the Lake of the Woods. Professor Macoun, speaking of his visit to the district, says :†—"The approach to Fort Frances is very beautiful. As we approach the outlet to the lake and enter Rainy River, the right bank appears very much like a gentleman's park, the trees standing far apart and having the rounded tops of those seen in open grounds. Blue oak (*Quercus Prinos var. discolor*), and Balsam Poplar (*Populus balsamifera*), with a few aspen, are the principal forest trees. These line the bank, and, for two miles after leaving the lake, we glide down between walls of living green, until we reach the Fort, which is beautifully situated on the right bank of Rainy River, immediately below the falls. All sorts of grain can be raised here, as well as all kinds of garden vegetables; little attention is given to agriculture, but enough was seen to show that nature would do her part if properly assisted. Barley, three feet high, and oats over that, showed there was nothing in the climate or soil to prevent a luxuriant growth. * * * The length of the river is about eighty miles. The right, or Canadian, bank, for the whole distance, is covered with a heavy growth of forest trees, shrubs, climbing vines, and beautiful flowers. The Indians say the timber gets larger as you proceed inland. The forest trees consist of oak, elm, ash, birch, basswood, balsam, spruce, aspen, balsam poplar, and white and red pine near the Lake of the Woods. The whole flora of this region indicates a climate very like that of central Canada, and the luxuriance of the vegetation shows that the soil is of the very best quality. Wild peas and vetches were in the greatest profusion; the average height was about six feet, but many specimens were obtained of eight feet and upwards. While the boat was wooding, I took a stroll inland, and found progress almost impossible, owing to the astonishing growth of herbaceous plants. The following plants were observed on Rainy River, and are only an index to the vast profusion of nature's bounties in that region:—Lilium Canadense, Lilium Philadelphicum, Vicia Americana, Calystegia spithamea, Calystegia sepium, Aralia hispida, Lobelia Kalmii, Smilacina stellata, Lathyrus venosus, Lathyrus ochrolencus, Monarda fistulosa, Viburnum pubescens, Astragalus Canadensis, Erysimum chieranthoides, Asarum Canadensis, and Lopaulthus anistatus." Writing of the Rainy Lake region, Sir George Simpson was fully as eulogistic of its merits and beauties as he had been of those of the Kaministiquia valley. His description agrees remarkably with that of Mr. Macoun just quoted : Sir George Simpson says :‡ "From Fort Francis downwards, a

* More properly René River its original name.

† Report, 1874.

‡ Overland Journey Round the World. 1841—2, p. 45.

stretch of nearly 100 miles, the river is not interrupted by a single impediment, while yet the current is not strong enough to retard an ascending traveller. Nor are the banks less favourable to agriculture than the waters themselves to navigation, resembling in some measure those of the Thames, near Richmond. From the very brink of the river there rises a gentle slope of green sward, crowned in many places with a plentiful growth of birch, poplar, beech, elm and oak. Is it too much for the eye of philanthropy to discern through the vista of futurity this noble stream, connecting as it does, the fertile shores of two spacious lakes, with crowded steamboats on its bosom and populous towns on its borders?" A few years later, before a Select Committee of the House of Commons in London, Sir George endeavoured to qualify to some extent, his former glowing panegyric. But he was at that time looking on this and some other matters in question, not with "the eye of philanthropy," but through a pair of Hudson's Bay monopoly spectacles, and, under a vigorous cross-examination by Mr. Roebuck, had virtually to admit the correctness of his first description, founded as it was on an experience of twenty-seven years.* The report of Mr. S. J. Dawson—now M. P. for Algoma—in 1874, and then engineer in charge of the district, fully corroborates the views of the two eminent authorities already quoted. He says:—"†Alluvial land of the best description extends along the banks of Rainy River, in an unbroken stretch of seventy-five or eighty miles from Rainy Lake to the Lake of the Woods. In this tract, where it borders on the river, there is not an acre unsusceptible to cultivation. At intervals there are old park-like, Indian clearings, partly overspread with oak and elm, which, although they have naturally sprung up, have the appearance of ornamental plantations. * * * The whole district is covered with forests, and Canadian settlers would find themselves in a country similar in many respects to the land of their nativity; nor does the climate differ essentially from that of the most favoured parts of Ontario or Quebec. Wheat was successfully grown for many years at Fort Frances, both by the old North-West Company and their successors, the Hudson's Bay Company. The Indians still cultivate maize on little farms on Rainy River and Lake of the Woods. In many places the wild grape grows in extraordinary profusion, yielding fruit which comes to perfection in the fall. Wild rice, which requires a high summer temperature, is abundant, and, indeed the flora, taken generally, indicates a climate in every way well adapted to the growth of cereals."

Supply of Pine Timber.

As regards the pine-growing capacities of this region, Mr. Dawson says‡:—"The Lake of the Woods receives the drainage of an area which may be approximately estimated at thirty-three thousand six hundred square miles, or 21,504,-

* Committee, House of Commons (G. B.) 1857, on Hudson's Bay Company.

† Public Works Report, 1874. Sessional papers (Canada), appendix 23.

‡ Public Works (Canada) Report. Appendix 23. Sessional Papers, 1875.

000 acres. In this vast district there are, of course, considerable varieties of climate, soil, and natural productions, but I desire expressly to draw attention to the fact, that it reaches nearly to the northern and north-western limits of the growth of pine wood of the class known, in Ontario and Quebec, as red and white pine ; that is, in the region eastward of the great prairies. Within this district, on the streams tributary to Rainy Lake, there are, in many places, extensive groves both of red and white pine, of a size and quality well adapted to all the purposes for which such timber is usually applied. On the alluvial belt of Rainy River white pine of a large size is to be seen interspersed with other descriptions of forest trees, and, on the Islands of the Lake of the Woods and main land to the north and east, there are occasionally pine groves of moderate extent; but, on proceeding to the north, by way of the Winnipeg, it gradually becomes more rare, until, on reaching Lake Winnipeg it finally disappears." In the region west of the Lake of the Woods, and thence to the Rocky Mountains, except at one or two isolated spots near the Lake, pine, properly so called, is unknown, and has to be imported by the ever-increasing population of Manitoba and the North-West. Lt.-Col. Dennis, lately Surveyor-General of the Dominion, and now Deputy Minister of the Interior, estimates the quantity of pine to be found between Lake Superior and the Lake of the Woods,—including that on the Islands in the Lake and within the region which may be supposed to be embraced between the International Boundary and the new boundary awarded to Ontario on the north—at twenty-six thousand millions of feet, board measure. All this is destined to be consumed in the Province of Manitoba and the North-West Territories. That it will form no unprofitable trade to the capitalist who embarks in it, may be judged from the fact that timber sells at the present time for from 25 to 45 dollars per thousand at Winnipeg. A cargo lately shipped from Collingwood, where it cost 10 dollars per thousand, was sold for 30 dollars in the Capital of Manitoba, and realized a good profit after paying all the charges for freight *via* Duluth and the Red River. From Fort Frances the cost of shipment to Winnipeg would be trifling, and, as the Lake of the Woods is too stormy for the transit of logs, the lumber must be manufactured in the district where it is found, thus giving a grand impetus to local industry and lake transportation. The foundations of such a trade have been already laid by the allotment, under Dominion authority, of extensive timber limits, and the establishment of a saw mill on a large scale at Fort Frances. A population of some 400 souls has been already attracted to the spot, and it is stated that some persons who had passed *via* Rainy River to Manitoba had returned and taken up land on Rainy River, owing to a preference for a well timbered country over one in which timber was scarce and dear.

Alberton.

The name of "Alberton" has been given to the settlement, which also rejoices in the possession of a local newspaper, the Alberton *Star*, in which appeared,

during the present year, the following:—"The lots immediately fronting on the river are ten chains in width and have a depth of two miles; each settler is allowed to homestead one of these lots, and pre-empt the adjoining one, if vacant, also. About fifty entries have been taken here during the past summer, and considerable improvements have and are now being made on these lots. Some very fine crops were harvested by those who took the trouble to sow and plant in this section last season, samples of which may be seen at the land office here. To the industrious man, be he farmer, mechanic, or labourer, with a small capital, Rainy River presents an opening second to no other district in the Dominion of Canada—and where in a few years any such man may become independent. * * * * From Fort Frances to Rat Portage (about 120 miles) we have an excellent water route *via* Rainy River and the Lake of the Woods. There are upon these waters now one large side-wheel steamer, 'Lady of the Lakes,' and two tugs, with an addition probably of another large tug next season. Those vessels will pass down the whole length of Rainy River on their way out, and must consequently touch upon every man's homestead on the river, thus enabling him to take his produce to any market he pleases. In the meantime he may obtain a good price for anything he wishes to dispose of at Fort Frances or Rat Portage. At the former place there are now about sixty houses and 400 inhabitants—all necessary conveniences, four stores, post-office, school, blacksmith shop and church—and these have all arisen within three years. We have also Mr. Fowler's large saw mill, where you may get your lumber plain or dressed, doors, sashes, laths, shingles, etc. Mr. Fowler is further making arrangements for the importation of a grist mill, to run in connection with his saw mill, on the opening of navigation. * * * * We may also take into consideration the fact that the land on the opposite side of the river is quite as good as our own, and that the American Government will doubtless soon place it in the market. Our canal will shortly be completed, and through its gates the large lumbering trade (soon to be created) in the neighbouring State, Minnesota, must pass. This will add much to the trade and commerce of Rainy River." A later issue of the same paper speaks of the favourable crops of the present year, the busy demand upon the new grist mill, the establishment of a Hudson's Bay Company's post at Sturgeon Falls, the summer-like weather prevailing in the fall, the construction of another steamer for the Rainy River and Lake of the Woods navigation, the arrivals of several new settlers, and other signs of a healthy, growing, and prosperous community.

Adjacent Territory in Minnesota.

As well remarked in the newspaper we have already quoted, it is not from the territory within Canadian jurisdiction alone that the Rainy River settlements are likely to derive advantage. While, from a distance of fully one hundred miles to the northward, the streams flow into Rainy Lake or River, and are thus made tributary

to the trade and commerce of the settler in that district, the large area lying between the height of land in Minnesota to the southward, and Rainy River, is also capable of being rendered a prolific source of wealth. The height of land which divides the source of the Mississippi from the waters that ultimately find their course to Hudson's Bay lies nearly parallel to and some 60 to 70 miles south of Rainy River, about midway between that river and the Northern Pacific Railway from Duluth to the west. The country is said to be well timbered, to yield large quantities of pine, and to contain, in the neighbourhood of Lake Vermillion, rich mineral deposits. The Big Fork and Little Fork Rivers, emptying themselves into Rainy River, and the Vermillion River, falling into Nameukan Lake may all be utilized for conveying the timber and other products of Minnesota to a common focus at Fort Frances. That the settlers on the American side are alive to the advantages of traffic with Canada is shown by the following, clipped from the *Star* of October 29th :—" One of the settlers from the Minnesota side of Rainy River shipped a cargo of 300 bushels of potatoes to Rat Portage a short time ago, which he got sale for, as soon as landed, at prices ranging from seventy-five cents to one dollar per bushel. The same party has started with the second lot, which he has already disposed of, on his arrival at the Portage, to the railroad people."

Fort Frances Lock.

The works at Fort Frances consist of a canal 800 feet in length, cut through the solid rock, about forty feet wide, with one lift of 24 feet 8 inches. The chamber of the lock is 200 feet long and 38 feet wide in the clear. The lowest depth of water on the sills will be 5 feet 6 inches, but it is rarely if ever known to be so low as that, and is ordinarily from 8 to 10 feet. The cost of the works to the Dominion Government has been $250,000.

The Indians.

The relations of the Government and white population of the territory to the Indian tribes must, necessarily, be an object of considerable interest and importance. The Indians of the country lying between Lake Superior and the Lake of the Woods are Saulteux of the Ojibway nation. They derive their name from Sault Ste. Marie, from the neighbourhood of which they originally immigrated. In the southern division of the new territory they probably do not number over from 3,500 to 4,000 souls, nearly one-half of whom are settled in the vicinity of the Lake of the Woods and Rainy River.

Number Three Treaty.

These Indians, as well as some of the same tribe, settled on Lac Seul, are those embraced in what is known as Treaty Number 3, negotiated at the North-West Angle of the Lake of the Woods, in 1873, by Lieut.-Governor Morris, with

Messrs. S. J. Dawson and J. A. N. Provencher as joint Commissioners. This treaty settled any troubles or difficulties that had arisen out of the encroachments of Canadian settlers or surveyors on what the Saulteux had regarded as their lands. The negotiations afforded, too, a very excellent opportunity for testing the intelligence and general character of the tribe as there represented. Archbishop Taché, in his work,* deplores the persistency with which the Saulteux cling to their pagan faith, and the habits and customs incidental to their unconverted condition. But although so hostile to christianizing influences, the Saulteux of this region are not deficient in many of the qualities that command respect. They are brave, high-spirited, and among themselves, very capable of self-government. The bands at Rainy River and Lake of the Woods meet frequently in Council, discuss their affairs very intelligently, and enforce sternly the rules and regulations considered necessary for the common welfare. While mostly retaining the primitive wigwam, and practising pagan rites, they are far more thrifty, prudent, and industrious, than many of their race. In addition to the products of the shore, the lakes yield them an unlimited supply of fish, principally white fish and sturgeon—the extensive marshes produce immense quantities of wild rice, which the Indians collect on a systematic plan enjoined by their self-imposed laws, and the same plant attracts vast numbers of wild ducks of every description which divide with the Indians the collection and consumption of the rice, with, however, this advantage on the side of the Indian, that, while the ducks can only eat the rice, the Indian, in addition to the rice, can also eat the ducks. When first visited by missionaries, these Indians were already cultivating maize, which they still raise on their clearings, a proof, at once, of their partial civilization, and the favourable nature of the soil and climate of the district. The main body of the Saulteux refuse to hold communication with the small band at Pigeon River, whom they regard as an inferior class, and look with supreme contempt on the little settlement at Islington, where, under missionary guidance, a christianized population, fifty or more in number, have made good progress in the arts of civilized life, especially agriculture. The Saulteux are keen at bargains, and managed to make a very good one under the Treaty of 1873. Lieut.-Governor Morris gives an amusing account of the negotiations.† For four days they held aloof from meeting the commissioners altogether. On the fifth, they attended in response to a peremptory summons. It then appeared that jealousies among themselves were the chief cause of delay, and that, so fearful were they lest one chief or band should obtain an undue advantage over others by privately communicating with the Commissioners, that they had set a guard over the Lieut.-Governor's house and Mr. Dawson's tent. Several days were consumed in listening to and refusing exorbitant demands, until mat-

* Sketch of the North-West of America, p. 120.

† Sessional Papers (Canada) 1875. No. 8, p. 15.

ters at last came to a dead lock, and the Commissioners declared they would leave unless the Indians came to terms. "This," says the narrator, "brought matters to a crisis. The chief of the Lac Seul band came forward to speak. The others tried to prevent him, but he was secured a hearing. He stated that he represented four hundred people in the north; that they wished a treaty; that they wanted a schoolmaster to be sent them to teach their children the knowledge of the white man; that they had begun to cultivate the soil, and were growing potatoes and Indian corn, but wished other grains for seed and some agricultural implements and cattle." "This chief," says Mr. Morris, "spoke under evident apprehension as to the course he was taking in resisting the other Indians, and displayed much good sense and moral courage." He was supported, however, by Chief Blackstone, whose residence is at Pine Portage, and, the ice once broken, the business of the meeting went forward. But after some progress had been made, the spokesman of the Indians presented, with new demands, a request that fifty dollars annually should be paid to each chief, and a new suit of clothing for every member of the band was capped by the still cooler proposal that they should all have *free passes for ever over the Canadian Pacific Railway.* It will hardly be alleged, after this, that the Saulteux of North-western Ontario have not made exceedingly good progress in the manners and customs of their white exemplars.

Terms of the Treaty.

The Treaty provides for the cession of all the lands within the following boundaries:*—"Commencing at a point on the Pigeon River route where the International Boundary Line between the territories of Great Britain and the United States intersects the height of land separating the waters running to Lake Superior from those flowing to Lake Winnipeg; thence northerly, westerly, and easterly, along the height of land aforesaid, following its sinuosities whatever their course may be, to the point at which the said height of land meets the summit of the watershed from whence the streams flow to Lake Nepigon; thence northerly and westerly, or whatever may be its course, along the ridge separating the waters of the Nepigon and the Winnipeg to the height of land dividing the waters of the Albany and the Winnipeg; thence westerly and north-westerly, along the height of land dividing the waters flowing to Hudson's Bay by the Albany or other rivers, from those running to English River and the Winnipeg, to a point on the said height of land bearing north forty-five degrees east from Fort Alexander at the mouth of the Winnipeg; thence south forty-five degrees west to Fort Alexander at the mouth of the Winnipeg; thence southerly along the eastern bank of the Winnipeg to the mouth of the White Mouth River; thence southerly by the line described as in that part forming the eastern boundary of

* Sessional Papers (Canada), 1875, No. 8, p. 19.

the tract surrendered by the Chippawa and Swampy Cree Tribes of Indians, to Her Majesty, on the 3rd of August, 1871, namely, by White Mouth River to White Mouth Lake, and thence, in a line having the general bearing of White Mouth River to the forty-ninth parallel of North Latitude, to the Lake of the Woods and from thence by the International Boundary line to the place of beginning."

A reference to the map* will show that this Treaty, consequently, covers three fourths of that portion of Ontario we have been describing as the western division of the territory embraced by the late arbitration. It extends, however, considerably beyond the boundaries of Ontario as assigned by the award, probably a little over one-third of the whole being north of the waters of Lac Seul and English River or west of the Lake of the Woods. The area, by the cession of which Ontario is directly benefited, is bounded by Lac Seul and English River on the north; by the Winnipeg River, Lake of the Woods, and International Boundary Line on the west; by the International Boundary Line on the south; and by the height of land which first separates the waters of Lac Seul from those of Lake St. Joseph (the head of the Albany River), and then those flowing eastward into Lake Superior, from those flowing to Lake of the Woods and forming the Dawson Route. The whole area ceded is stated to be 55,000 square miles,† and of this we may rightly estimate 35,000 as coming within Ontario jurisdiction. From this have to be taken the Indian Reserves, the allotments of lands for that purpose not to exceed one square mile for each family of five persons. The right of hunting is to be continued to the Indians, subject to such regulations as may be prescribed by law, or to the limitations imposed by settlement.

Subsidies and Presents.

The payments, in money or kind, made by way of purchase or presents, once for all, in return for the cession, were as follows:—‡Twelve dollars per head for every man, woman, or child belonging to the lands there represented; for every band who were then cultivating, or should hereafter cultivate, the soil, two hoes for every family actually cultivating; also one spade per family as aforesaid; one plough for every family as aforesaid; one scythe for every family as aforesaid; and also one axe and one cross-cut saw, and handsaw, one pit saw, the necessary files, one grindstone, one augur for each band; and also for each chief, for the use of his band, one chest of carpenters' tools; also for each band, enough of wheat, barley, potatoes, and oats, to plant the land actually broken up for cultivation by each band; also for each band, one yoke of oxen, one bull, and four cows. In addition to these gratuities, the sum of fifteen hundred dollars is to be spent annu-

* Map of North-west Territory, &c., exhibiting tracts ceded by Indian Treaties, accompanying Report of Minister of Interior, 1876.

† Lieutenant-Governor Morris's Report, Sessional Papers (Canada), 1875, No. 8, p. 18.

‡ Sess. Papers (Canada), 1875, No. 8, p. 20-21.

ally in the purchase of ammunition and nets for the Indians; a sum of five dollars per head is to be paid to each Indian also annually; each duly recognized chief is to receive a salary of twenty-five dollars per annum, and each subordinate officer —not exceeding three for each band—fifteen dollars per annum. Each chief and subordinate officer is also to be provided with a suit of clothing once in every three years. Finally, in recognition of the closing of the treaty, each chief received a flag and medal. Schools for instruction were also to be established wherever the Indians desired it, and all intoxicating liquors were to be excluded from the reserves.* In connection with the granting of the medals, an incident occurred during the conference, certainly creditable to the astuteness of the Saulteux, if not to their knowledge of the precious metals. Mawedopinias, the chief who acted as principal spokesman, who had obtained a medal given to one of the Red River chiefs, declared it was not silver, as it turned black, and, contemptuously striking it with his knife, protested he and his friends would be ashamed to wear it.

Progress in Civilization.

In the report of the Minister of the Interior for 1877 the following passage occurs: †—"The Indians who reside about eighty miles west of Rat Portage, within the limits of Treaty No. 3, are represented to be making satisfactory advancement in the arts of civilization, and stock-raising to some extent is ventured on; and altogether a commendable spirit of enterprise has developed itself among them. At Lac Seul, also, the progress of the Indians is said to be quite marked." The Indians west of Rat Portage are, of course, beyond the Ontario western boundary.

Numbers Included in Treaty No. 3.

The accounts of the Indian Department for 1877 show that the Indians receiving annuities under Treaty No. 3 numbered 2,890, classified as follows:—9 Chiefs, 26 Headmen, 2,855 Indians. The annuities paid in 1877 amounted to $14,890; the total sum placed to the credit of the bands being $17,440. The tribe in this region counted not many years since 20,000 souls. Small-pox has reduced them to their present numbers.

Geological Features.

The reports of the Crown Lands Department of Ontario refer to the numerous mining locations granted within the area bounded on the west and north of Lake Superior by the height of land, and the whole of the interior region west of Lake Superior has been the subject of geological surveys, very full accounts of which have appeared in the reports of the Geological Branch of the Depart-

* Lt.-Gov. Morris' report, Sess. Papers (Canada), 1875, No. 8, p. 17.

† Sessional Papers (Canada) 1875. No. 10. Report Deputy-Superintendent General, p. 15.

ment of the Interior.* That the geological conditions are indicative of valuable mineral deposits, there can be no doubt. A band of rocks running south-west from Lake Shebandowan—in the neighbourhood of which gold has been found in considerable quantities—to the Internaional Boundary, and thence to Lake Vermillion in Minnesota, is rich in auriferous deposits. Around Jackfish Lake they are probably most marked, but specimens of gold and gold ore are found along the whole line of country above indicated. The entire region, also, of the Rainy River invites further explorations. Mr. Dawson in his report (1874)† says:—"The Indians, both of Rainy Lake and Lake of the Woods have among them specimens of native gold and silver ore, which they affirm is to be found in places known to them in abundance, and the rock formation is such as to corroborate their statement. Iron ore is plentiful in many sections, and charcoal for smelting easily obtainable. Granite, which report says is equal in texture and fitness to the best imported specimens, is to be found at the Lake of the Woods, and the steatite, of which the Indians make pipes, a very valuable article for the construction of furnaces, is quite abundant at Rainy Lake and Sabaskin." It was stated in evidence before the Committee on Immigration and Colonization, at Ottawa, last year,‡ that coal had been discovered in the vicinity of Rainy River. There does not appear to be any reason, on scientific grounds, for doubting the existence of coal in that region, but its quality or the extent of the deposits, if they exist, are subjects for further inquiry before much reliance can be placed on the value of the alleged discovery.

The mineral resources of the district intervening between the height of land and Lake of the Woods must be mainly predicated upon the investigations of the geologist, and the information he supplies. Professor Robert Bell in a series of notes on the geological formation of the country on the line of the Dawson route, writes as follows:§—"Laurentian gneiss, running in a west south-westerly direction, extends from a point on the south shore of Lac des Mille Lacs, about four miles east of Baril Portage, all along the chain of lakes which this route follows as far as Sturgeon Lake. Mica Schist begins near the inlet of Sturgeon Lake, and continues along the route as far as Cross Lake. The Maligne and Island Portages occur in this interval. The Mica Schist appears to be all of the same character. It is moderately coarse-grained, and has a white shining appearance with black specks on fresh fracture, and often holds small hard patches of pebbles of a granular quartzose character like sandstone. At Cross Lake the Mica Schist becomes much mixed with reddish granite in the form of veins and intruded masses, the proportion of granite increasing in approaching Nequaquon Portage, at the western extremity of the Lake. In the western part of Cross Lake nearly all the points and islands are formed of

* Reports Geological Surveys (Canada), 1872-3, 1873-4, by Professor Bell.

† Public Works Report, 1875, Appendix 23.

‡ Report of Committee, page 139.

§ Geological Survey, 1873-4. p. 87.

granite. At Nequaquon Portage the rock consists of a dark grey mica schist, interstratified with gneiss, the latter prevailing towards the west end of the Portage where it has entirely replaced the former. * * * The rocks along the route from Nequaquon Portage towards Kettle Falls consist partly of gneiss and partly of a dark coarse splintery shining mica schist, to a point on Nemakon Lake, about six miles west of the narrows by which we entered it. Along the east side of Nequaquon Lake, and approaching the main body of gneiss in the western part of Nemakon Lake, the gneiss and mica schist are interstratified with each other, while between the two latter the rock consists of mica schist alone, with some veins and masses of granite. Proceeding westward from Kettle Falls through Rainy Lake, gneiss continues to prevail for about twenty miles. The gneiss at that locality holds micaceous bands and intruded waves of coarse reddish.grey granite. . . . A broad band of schist covers the central part of Rainy Lake. This appears to be the same band which follows the Seine River, and is probably identical with the one which covers Bush Creek. The Indians at Fort Frances manufacture pipes from a grey slate, which occurs on the long point between the mouths of the Manitou and Seine Rivers. Mr. Robert Pither, the Indian Agent at Fort Frances, showed me specimens of light coloured granular iron pyrites, which, he informed me, were taken from a thick band in the same locality as the pipe-stone. I was shown a specimen of coarse silvery quartzose mica schist, which is said to occur, *in situ,* in the above neighbourhood. Mr. Pither likewise exhibited me a sample of copper pyrites in quartz from a vein on Rainy Lake, but he was not certain of the exact locality at which it occurs. He confirms the accounts of Mr. Dawson and others as to the occurrence of Huronian schists along the Seine River. The rock at the Falls of the Rainy River is a massive grey granitoid gneiss. Gneiss is also seen on the river about a mile below Fort Frances, and again at about ten miles. An expanse of massive-looking rocks, apparently Huronian schists, occurs at the mouth of Rapid River, which joins Rainy River from the southward, about fifteen miles from the Lake of the Woods. The banks of Rainy River, except on approaching the Lake of the Woods, are generally from fifteen to twenty feet high, and are composed of clay and drift materials, in which pebbles and boulders of a yellowish-grey limestone are plentiful. There is reason to believe, however, that, under these superficial deposits, a broad band of Huronian rocks covers the lower section of the river." The information thus afforded, while not absolutely conclusive, is so far indicative of mineral deposits of greater or less richness in the region we have been describing, as to suggest the propriety of a careful exploration, with the special object of ascertaining more thoroughly the value of the district for mining purposes. If to an abundance of splendid farming land, extensive pine forests, and a water way open to a market of which the demand will be unlimited, the country traversed by the Dawson route should develop the mineral resources indicated by its geolo-

gical formation, it will prove a rich acquisition both to the commerce of Ontario and the revenue of the Government.

Lac des Mille Lacs (via Lac Seul) to Winnipeg River.

While the exigencies of travel, and the need felt for a highway through Canadian territory to the North-West, have done much to further a knowledge of the features of the southern portion of the country we are describing, scientific explorations have been made along its northern limits by the officers of the Geological Survey. Starting from Lac des Mille Lacs, Messrs. Selwyn and Bell, in 1872, travelled by canoe the whole distance of 461 miles, to the Winnipeg River, encountering no more serious obstacles than portages, which were easily crossed, or the danger of being lost in the labyrinthine system of lakes, streams, and rivers, with which the whole route is more or less intersected.* A very brief sketch of the journey condensed from the published reports, will give a fair idea of the nature of the country visited. Leaving Lac des Mille Lacs on the 29th of August, the party, on the 10th September, were camped on Sturgeon Lake, having passed over twenty-five portages, altogether 9,836 yards in length, in a distance of 100 miles. Being deserted by their Indians, the travellers fortunately recruited their force by the voluntary services of half a dozen Pacific Railway surveyors' men, who were met with on the way, and who desired to return to their homes on Red River. On the 16th of September the camp was on the line of the Railway Survey, from which point the Sturgeon Lake River was descended about ten miles, to the head of the second rapids in the portage, 210 yards in length. A journey of four miles further, brought them to the falls by which Sturgeon Lake River discharges into Lake Minnietaki, there being in that distance three portages, respectively 1,500, 250, and 1,280 yards in length. The water, however, was then at its lowest stage; when the river is full the rapids may be descended in a canoe. It is between Minnietaki Lake and Lac Seul that the route becomes most intricate, and, but for the fortunate appearance of a wandering Indian, who acted as pilot, the journey might have had a premature ending. One portage, 1,758 yards in length, being crossed, the canoes entered a small river flowing directly into Lac Seul, and on the 20th September, the Hudson's Bay Company's Post on that lake was reached, 81 miles from the camp on Sturgeon Lake, the trip in that distance involving portages, thirteen in number, and aggregating 7,848 yards in length. The Hudson's Bay Post, on Lac Seul, appears from the maps to be situated about midway between the eastern and western extremities of the lake. Some idea of the extent of this sheet of water may be formed from the fact that, from the post to the head of the English River, at the western end of the lake, the distance is 52 miles. The passage down the English River to its junction with the Winnipeg, was accom-

* Geological Survey, 1872-3, p. 87.

plished by the 2nd of October, the portages to be crossed being twelve in number, and measuring altogether 5,535 yards.

As to the general aspect of the country, Professor Selwyn, after urging the importance of a mineralogical survey of "the great parallel bands of schistose and slaty strata traversing this region," and pointing out that gold, copper, and iron, are associated with similar strata, says :—* "Except such as arises from causes connected with the presence of Huronian rocks, as above described, or with the occurrence of superficial deposits of sand clay, &c., but little variation is perceived in the general aspect of the country, on the route which we traversed, between Lac des Mille Lacs and Lake Winnipeg. On the mainland, and on the innumerable islands, the shores of the lakes and rivers, generally present bare rock surfaces. Bold cliffs and precipices are rare; the rocks either rise abruptly from the water for fifteen or twenty feet, or else slope gently upward, till, above the line of highest flood, they are concealed beneath a thin coating of moss-covered soil, supporting a thick undergrowth of brushwood, and a forest of poplar, aspen, birch, spruce, and small tamarack, with, occasionally, a few red pine trees, standing singly or in small clumps, and which, though considerably taller than the rest of the forest, and hence conspicuous at a distance, are rarely of large size. The generally small size of the timber, however, is evidently not altogether due to the effects of unfavourable soil and climate, but in a great measure to the fact that nearly all the older trees have been destroyed by the successive fires that at one time or other have devastaed every part of the country, and the effects of which are often conspicuously marked by the tall dead branches and charred trunks which still tower above the younger forest. There are no prominent hills or even ridges; the highest elevations do not probably exceed four or five hundred feet above the intervening waters, and I think it is no exaggeration to say that the latter occupy fully one half of the whole surface area of the region. The surface is generally undulating and broken, and often rocky, but occasionally both lakes and rivers are bordered either by extensive swampy flats, or by banks of stratified sand, silt, and clay, which ofter rise terrace-like at a short distance from the water's edge. The point on which the Hudson Bay Company's Post stands is formed of these deposits, and to the westward of the Post, along the north shore, they are exposed in cliff sections for several miles. At the junction of the Mattawa and English Rivers, where a small Indian village and trading post is situated, presided over by Chief Pierre, there are similar banks of sand and sandy clay resting on the ordinary grey Laurentian gneiss, which is exposed along the water's edge. The banks here rise steeply to about thirty feet above the water, and for some distance inland the country seems to be tolerably level, and the soil on this part of the river appears to be generally of fair quality. Small patches of it are cultivated by the Indians, who succeed in raising excellent

* Geological Survey, 1872-3, p. 16.

potatos, carrots, and onions, and there is no doubt that many crops would flourish equally well, and would be cultivated by them if they were supplied with seed. Throughout the region, especially from Sturgeon Lake westward to Lake Winnipeg, there are considerable areas of soil suitable for cultivation.

The Line of the Canadian Pacific Railway.

Following the course of the Canadian Pacific Railway, as located and partially constructed between Fort William and Rat Portage, on the Lake of the Woods, we gather a fair idea of the character of the country from the reports of the engineers.*

From Fort William to Lacs des Mille Lacs the route has already been described. From thence to the arm of English River, crossed by the railway 113 miles from Thunder Bay the ground is slightly undulating, and although there are several rock cuttings they are generally in short lengths. Still their frequent presence denotes a rugged and uninviting surface. From the 113th to the 160th mile, where Little Wabigoon River is reached, the country is rolling, containing numerous lakes and swamps with very irregular rocky ridges. From Little Wabigoon to Thunder Lake, the latter 206 miles west from Thunder Bay, the country is very slightly undulating, but where excavations occur they will be in rock. For the next 58 miles the line traverses a heavy rolling country with numerous lakes, swamps and rocky hills and some good land interspersed. Lastly, from the 264th mile to the 298th at Rat Portage, the section is over a very rough rocky country, indented with numerous lakes and hollows and containing very little soil. It is evident that the route for the railway has thus far been chosen with an eye mainly to engineering purposes and objects, and, probably, to secure as the primary desideratum the most direct line to the Red River, but uninviting as the section it covers may appear from these descriptions, it must not be forgotten that the very fact of a railway passing through it gives value to what would otherwise be a waste, and justifies an expenditure of labour and capital in places, that without it, would never entice either to attempt their reclamation. Should mineral wealth be developed on the line of the railway route, as there is good reason to anticipate, it will not be long before whatever portions of the country can be made cultivable will be discovered and appropriated.

The Climate.

The ability, not only to live, but to enjoy life, in an atmosphere that, to the inhabitants of warm or very temperate regions appears to be almost incredibly severe, is tested every day for several months in the year by the hardy population of Canada. A very low temperature has few terrors, and is often attended with less actual suffering, or inconvenience, than the raw, damp, chilliness of a

* Canadian Pacific Railway Report, 1877. Appendix Z, p. 357 *et seq.*

milder climate. By no one need the western portion of North-Western Ontario be really dreaded. Mr. Sandford Fleming, in his Report of Progress, laid before Parliament in 1874, referring to the climatic peculiarities of the regions traversed by the Canadian Pacific Railway, says :—* "Throughout the whole of the woodland region (Nipissing to Red River), the depth of snow is generally less on an average than it is at the City of Ottawa. Only in one locality on the routes favourable for the railway, between Manitoba and Lake Nipissing, is the snow found generally so deep as at this city (Ottawa). The locality referred to is in the immediate neighbourhood of Lake Superior, where the route approaches the coast; here the lake appears to have a local influence on the humidity of the atmosphere, and, in consequence, on the amount of snow-fall. * * * From Lake Nepigon to Manitoba the snow ranges from 70 to less than 50 per cent. of the depth at Ottawa." A witness examined by the Committee on Colonization and Immigration, at Ottawa, in reply to a question respecting the climate of the Rainy River region, replied that it was "similar to Manitoba." † This statement would probably apply to the larger portion of the country the character of which we are now considering. The intensity of cold will, of course, vary according to the elevation or sheltered position of different localities. The Hon. Senator Sutherland, of Manitoba, before the above-named committee, in 1876 said, with regard to the winters in that Province :—‡ "The frost penetrates on exposed places to the depth of from three to four feet, that is where the land is not covered at all with snow. Where it is covered with snow it is seldom frozen deeper than eighteen inches. Vegetation begins and progresses before the frost is all out of the ground, and we generally begin sowing when it is thawed to the depth of six inches, at which time the surface is perfectly dry. We believe this frost helps the growth of crops, owing to the heat of the sun by day, causing a continual evaporation from the underlying strata of frost. * * * We have occasional (summer) frosts; generally one frost about the first of June, but seldom severe enough to do any material injury to the growing crops, and showers are frequent during spring and summer. The average depth of snow throughout Manitoba is about 20 inches, and is quite light and loose." That the winter does not, in the region between Lake Superior and Lake of the Woods, encroach to an inconvenient extent upon the open season, is incidentally shown by a circumstance alluded to by Mr. Dawson, in his report to the Government of the Dominion, in 1874.§ At the close of the season of 1873, orders were suddenly received to prepare for the transportation of a body of the Mounted Police over the Dawson route. By the time the force had reached the north-west angle, winter had set in with great severity, and the result was, that a large force of workmen, em-

* Report Canadian Pacific Railway, 1874, p. 34 *et seq.*

† Report, p. 169. Journals House of Commons (Canada), 1878.

‡ Report of Committee, p. 39, Journals House of Commons (Canada), 1876.

§ Public Works Report, 1874. Appendix 23. Sess. Papers (Canada), 1875.

ployed in the transportation service, were winter bound. It is in making this statement Mr. Dawson incidentally mentions that the smaller lakes near the height of land were frozen over on the night of the 28th October, and that, although every effort was made to keep the navigation open, the thermometer fell on the night of the 2nd November, to 6° (Fahrenheit), completely stopping the tugs. "But," he adds, "winter had set in earlier than ever before known in the short experience of the white man, or even in the knowledge of the Indians." In the report of the same gentleman to the Legislative Assembly of Canada, in 1858, he says:* Blodget, in his isothermic chart, shewing the mean distribution of heat for the summer, places the line of 60° to the north of the Lake of the Woods, and that of 65° at Fort Garry. * * * That a great precipitation of rain takes place at and near the highlands which separate the waters flowing to Lake Winnipeg, from those that run towards Lake Superior, is evinced by the magnitude of the rivers, as compared with the area they drain. The climate, however, seems to be milder on the western slope of the highlands than on the eastern." The following record, by Sir John Richardson, of the progress of the seasons at Fort William, will give some idea of the climatic conditions on the more favourably situated western slope of the height of land above referred to:†—

Feb. 9.—Thermometer at noon, 39° F.
March 1.—Temperature, 61° in the middle of the day.
April 2.—The sap of the sugar maple began to run.
" 9.—First wild ducks seen.
" 10.—Butterflies, blueflies, and gulls noticed.
" 20.—General thaw commences. Ground frozen to a depth of 3 ft. 9 in.
" 30.—River Kaministiquia partially open.
May 2.—River free of ice.
" 10.—The birch tree and maple budding.
June 15.—Swallows building.
July 15.—Barley just coming into ear. Potatoes in flower.
" 31.—Raspberries ripening.
Aug. 8.—Red currants and blueberries perfectly ripe.
" 19.—Barley ripening.
" 29.—Peas quite ripe.
" 31.—Swallows have disappeared.
Septr. 7.—Leaves of birch and aspen change colour.
" 13.—Potatoes, cabbage, turnips and cauliflowers nipped by frost.
October 7.—Leaves of the birch and aspen falling.
Nov. 3.—Small lakes frozen over.

* Journals Leg. Assembly, Canada, 1858. Appendix 36.
† Arctic Exploring Expedition, Vol. II., p. 227-8.

Nov. 9.—River covered with a sheet of ice, which broke up again.
Dec'ber 1.—Ice driving about by wind.
" 17.—Thunder Bay frozen across to the Welcome Islands.*

Another authority states that the average period of the Kaministiquia freezing over is from the 3rd to the 15th of November, and that it becomes free from ice between the 20th and 23rd of April. Bearing in mind the tendency to an amelioration of the climate in pursuing a westerly course, and the comparison instituted between the Rainy River region and Manitoba, there certainly are no climatic difficulties in the way of the colonization of the country lying between Lake Superior and the Lake of the Woods.

EASTERN DIVISION.

Lake Superior to James Bay.

The possession of the territory lying north of the height of land and extending to the shores of Hudson's Bay opens up an entirely new field to energy and enterprise. The southern shore of the Bay, which forms under the late award the northern limits of Ontario jurisdiction, is but little further from Toronto than the City of Quebec; a railway from the present termination of our northern lines to Moose Factory need be accounted a no more chimerical scheme than would the proposition have been considered to connect Toronto with the ancient capital of the Lower Province by a similar means fifty years ago; and the terrors of frost and snow that, somehow or other, are associated in men's minds with the Hudson's Bay region, are certainly not more appalling than were the stories of hardship and suffering supposed, as but yesterday, to attach to a settlement in what is now the populous and busy capital of Manitoba. The broad rivers that flow northward and eastward into James or Hudson's Bay, seem to invite the voyager by the facilities they offer for his journey to the great northern sea or inland lake whose coasts he may desire to explore, and the head waters of our St. Lawrence or lake navigation, approach near enough to make the journey one of comparative ease to men inured to the experiences of Canadian pioneer life. These rivers could all tell a tale of strange doings in past times to which their waters have been witness; when Hudson's Bay Company's retainers contended for the rights secured to them under their monopoly; when their traders were intercepted by rivals by whom, and towards whom, rough measures were by no means repudiated; when the "French from Canada," outbid the Company's factors for the Indians' hunting spoils, and bore them away hundreds of leagues overland instead of leaving them to find their way by the annual ship from York Factory to Europe. To-day, when all strifes and hostile competition are at an end, the In-

* Journals Leg. Assembly (Canada), 1858. Appendix 3.

dians and trappers still bear their skins by the York, the Albany, or the Moose, to the respective Forts, and it is but some thirty years since a force of British troops, with ordnance, and accompanied by women and children, made a safe passage, by the Hayes river, from York Factory to Norway House, and thence by Lake Winnipeg and the Red River to Fort Garry, reaching their destination in thirty days. The country constituting what we shall call the western half of North Western Ontario, will be bounded by an imaginary line drawn north-west from the point at which the height of land, north of Lake Nepigon dips to the southward, to the head of Lake St. Joseph, the source of the Albany river. Thence easterly along that river to its mouth, thence east along the south shore of James Bay, nearly to its south east angle, then south along the boundary line between Ontario and Quebec, and finally westward along the height of land on the north of Lake Superior and Lake Nepigon, until the starting point is reached. But in order to estimate properly the value of the possession of this region, it will be necessary to take into consideration the trade and resources of the country lying north of the Albany, its connections with the trade of the North-west and also the promise of advantages accruing from a traffic in the products of Hudson's Bay itself. We shall first notice, however, the means and routes by which the Bay is accessible from the settled portions of Ontario or other parts of the Dominion.

Routes to Hudson's Bay.

Several large rivers flow into James Bay, which is simply a contraction of Hudson's Bay at its southern extremity. From the south come the South Branch of the Moose, or the Mattagami, as it is called in the country, the Missinibi or North Branch of the Moose,—both streams uniting before discharging themselves into the Bay,—the Abbitibbe River coming from the south-east, which also joins the Moose and seeks its outlet at the same point; the Albany from the south-west, which enters the Bay about one hundred miles west of the Moose; the Harricanaw, which crosses the provincial boundary line some distance south of the Bay from the east; the Notaway and Rupert's River which are wholly to the eastward of that boundary, and enter the Bay at points on its south-eastern shore corresponding very nearly to the position of the mouths of the Moose and Attinibee on its south-western coast; and, further north still, the East Main or Slude River entering the Bay at a point nearly opposite the mouth of the Albany. Following the western shore of Hudson's Bay to the northward we first come to the Severn River, and then still further north to the Nelson and its southern Branch the Hayes River, at the mouth of which York Factory is situated. The Nelson river forms the channel by which the drainage of the whole region of the Lake of the Woods, fed by innumerable rivers and streams, of Lake Winnipeg which receives the waters of the Lake of the Woods, of the

Winnipeg, Red, and Assiniboine rivers, and of the mighty Saskatchewan with its confluents, find their way to the ocean. North of the Nelson is the Churchill, a large river, and still further to the north the Seal River. It is in the rivers of the south and west we are primarily interested in connection with our present inquiries. Recent explorations made under the direction of the Dominion Government have afforded very ample information as to the routes to James Bay through what is now, under the award, Ontario territory, from the south and south-west. A brief description of each survey will present a tolerably clear view of the general character of the country and the routes traversed.

Lake Huron to Moose Factory.

Setting out from the north shore of Lake Huron by way of the White-fish River, the Wanapiti River and Lake, Professor Bell, in 1865,* passed, by way of the Sturgeon River—which flows into Lake Nipissing and must not be confounded with a river of the same name west of Lake Superior,—through a succession of lakes to the head of the east branch of the Montreal River, a tributary of the Ottawa; thence *via* Pigeon Lake to Grassy River, the waters of which flow northwards to Lake Shatagami. From this lake, by a six mile portage, Lake Mattagami was reached, and a passage down the Mattagami to the south Branch of the Moose or Mattagami River effected. The river was surveyed to its junction with the north branch of the Moose or Missinibi. The party then passed down the main stream to Moose Factory a short distance south of the mouth of the river and open bay. Mattagami Lake, which gives the river its name, and which, if not *the* source, may be regarded as one of its sources, is about 26 miles in length. For five or six miles the river, after leaving the lake, flows smoothly but then takes a plunge, first by a fall, and then a rapid, thus accomplishing a descent of forty-five feet. This impediment to navigation is overcome by a portage known as Fishing Portage, a mile in length, on the west side of the river. At a distance of a mile and a half from Fishing Portage the river enters Kenogamissee Lake, twenty-two miles in length. The united length of the two lakes and intervening river supplies a navigation of some fifty-four miles with one portage a mile long as the sole interruption. From the foot of Kenogamisse Lake to Moose Factory is a distance of 216½ miles, divided as follows:—

From Kenogamissee Lake to a (first) brook at a S. E. bend about N. E.	12 miles.
To second brook at a N. E. bend about N.	3 "
To a third brook to a S.W. bend about W.	5 "
To Muckwa Powitik (Bear Rapid), about N.	66 "

* Geological Survey, 1875-6, p. 294.

To foot of Long Portage to junction of Missinibi Branch, about N. 42 deg. E.....	39½ miles.
From junction of Missinibi to Moose Factory, about N. 52 deg. E.....	46 "
Total	216½ miles.

Long Portage is the last of eighteen portages in the above distance. It is four miles in length, and avoids a descent of 190 feet, the three portages above it being represented by a fall in the river of 195 feet. Adding forty feet for the intervening space the total descent in 10 miles is 425 feet. On leaving Kenogamissee Lake the river falls some 117 feet in three-quarters of a mile, but the intervening portages are described as "short, with a comparatively slight fall in the river at each," so slight, in fact, that canoes can be frequently taken up and down with a half load. Numerous streams help to swell the Mattagami in its northward course the principal one, besides the Missinibi, already mentioned, being the Abbitibbe which joins the Mattagami 17 miles south of Moose Factory. The most interesting fact, perhaps, in the foregoing brief sketch of the Mattagami's course is he existence of a stretch of ninety miles inland from James Bay, with no serious impediment to navigation whatever.

Moose Factory to Michipicoton.

Leaving the topographical and productive features of the country watered by the Mattagami, to be noticed subsequently, we will now turn southward and accompany Mr. Bell on his homeward trip, his objective point being the River Michipicoton on Lake Superior, probably the nearest point on the navigable waters of the St. Lawrence chain to James's Bay, and which, owing to the wide reach of country, extending from Lake Huron northwards, before the height of land is crossed, and the sources of the Moose are reached, must, in the absence of roads or railroads be one of the more natural and accessible routes to Hudson's Bay.* We have already traced the Mattagami or South Branch of the Moose to its union with the North Branch or Missinibi and thence to James Bay at Moose Factory. The return trip will therefore commence at the junction of the two streams. In a straight line the distance from Round Bay 4½ miles below Long Portage to the outlet of Missinibi Lake is 113 miles. Following the course of the river the distance is much greater. The portages, twenty in number, are as follows:—

1. Long portage	1 mile.
2. Storehouse portage	½ "
3. Congening House portage.....	866 paces.

* Geological Survey, 1875-6, p. 327.

4. River side portage ..... 673 paces.
5. Kettle portage ..... 100 yards.
6. Black feathers portage ..... ¼ mile.
7. Rocky Island portage ..... 160 paces.
8. Sandy Bay portage ..... 85 "
9. Sharp rock portage ..... 87 "
10. Beaver portage ..... 455 "
11. Sugar loaf portage ..... 77 "
12. Pond portage. Length not stated.
13. A portage sometimes navigable ..... 200 "
14. St. Paul's portage ..... 178 "
15. St. Peter's portage ..... 330 "
16. Okandago (or Greenhill) portage ..... 1634 "
17. Wavy portage ..... 110 "
18. Island portage ..... 431 "
19. Foot-of-swampy-grounds portage ..... 353 "
20. Keg portage ..... 360 "

In the interval between the outlet of Missinibi Lake and the mouth of the Michipicoton there are seven more portages. Following the general course of each of the stretches above-given, the total distance from Moose Factory to the mouth of the Michipicoton is 314 miles, or in a straight line 281¼ miles. In round figures it may therefore be said that, at this point, the waters of Lake Superior are separated from those of Hudson's Bay by a distance of a little over 300 miles. The number of portages varies considerably with the season and the state of the rivers and their feeders. In many cases, with a light load the rapids can be wholly overcome, and a recourse to portaging avoided.

Missinibi Lake is a fine sheet of water twenty-four miles in length and at about eighteen miles from the outlet a bay opens off the north-east side and runs back north-east parallel to the main body of the lake about nine miles. "On the south-east side of the lake fifteen miles from the outlet," says the report, "a river falls a considerable height over the rocks into the lake. It is called Wi-a-sitch-a-wan or "Water shining from Afar." The country traversed by the Missinibi must be of a generally level character, for, according to Mr. Bell, the first hills seen from the river after leaving Moose Factory were immediately north of Missinibi Lake. It is doubtful, however, whether either of the two routes above described is the true one, if the object be to secure the easiest means of access to the waters of Hudson's Bay from the great lakes. A more advantageous route will probably be one from the north shore of Lake Nepigon to the main stream of the Albany, or, still better, one from the mouth of Black River on Lake Superior by way of Long Lake, and a southern branch of the Albany, joining the main river at about 150 miles from its mouth.

Black River (Lake Superior) to the Albany.

This route appears from the information at command, to possess the greatest natural advantages. After curving round Lake Nepigon the height of land dips suddenly to the southward, forming a sharp bend—or rather loop, for it immediately recedes to the northward again—opposite to the mouth of the Black River. In this loop, or bend, lies Long Lake, a narrow sheet of water fifty miles in length, its southern end being one mile north of the height of land, and only twenty-two miles from Lake Superior. Between the height of land and Lake Superior water communication exists; the Black River being navigable by light canoes for its whole length. But, as portaging would be necessary at several places for heavy freights, and as there is an intervening space between the waters running north and south respectively, which must, in any case, be overcome, it is possible that, whenever a scheme is devised for utilizing the navigation of Long Lake as a route to Hndson's Bay, the first effort will be to secure an easy method of land conveyance from Lake Superior to the nearest long stretch of navigable water. Although the country on the north coast of Lake Snperior is generally rugged and rocky, the Canadian Pacific engineers who have surveyed a line of railway from Lake Nipissing to Nepigon River, which passes between the height of land south of Long Lake and Lake Superior, do not represent this section as being at all particularly formidable from their point of view, although they would traverse it longitudinally, while a road, tramway, or railroad, from Lake Superior to Long Lake, would cut it laterally. The elevation of Summit Portage is given by Mr. Bell as 489 feet above the Lake Superior level, while Long Lake is 466 feet above Lake Superior. From Long Lake with its fine stretch of fifty miles of clear navigation, flows the Kenogami River, marked as English River on some of the maps, but that name is appropriated by so many other streams, that it will be more convenient to use the Indian designation.

As considerable interest may attach to this route, it may be well to describe the Kenogami in Mr. Bell's own words. He says:—* "Leaving Long Lake the Kenogami River winds for two miles among open marshes, on which the Hudson Bay Company's men cut hay for the use of the cattle at Long Lake House; the general course of the river for the first nine miles is N. 10° E. In this section the first portage occurs at three, and the second at seven miles down, and between them on the west side, Kenogamishish, or little Long Lake River, enters at five, and Manitounamaig, or Devil-Fish River, at six miles from Long Lake. From the outlet to the first of these tributaries, the river is only from a chain and a half to two chains wide; but below them it expands to four chains. Further down it continues to increase in width, till, at the end of nine miles (following the stream), from Long Lake, it averages ten or twelve chains. At the end of nine miles from

* Geological Survey, 1870-1 ;p. 338.

Long Lake, the river bends round, running N. 86° E. in a straight line for eight miles; then it enters the west side of Mani-gwa-ga-mi or Pine Lake at right angles about two miles from its southern extremity. Portages 3 to 7 occur in this stretch, and a river enters from the north. The main body of Pine Lake, which runs N. 12° E. is about seven and a half miles long, and one and a half wide. At a mile and a half from its northern extremity, a channel, ten chains wide, leads into the lower division of the lake. This runs N. 25° E., and is three and a quarter miles long and one mile wide. About one and a half miles from Pine Lake we reach the eighth portage, and immediately below it, Arm Lake, which is about three miles long and lies at right angles to the general course of the river. The ninth portage is passed at about two miles below Arm Lake; and half a mile further on, the river enters Ka-pees-a-watan Lake; two miles long in which there are several low islands. Mani-gwa-ga-mish or Little Pine River, flowing from a lake of the same name, enters the south side of this lake, and the Wa-big-a-no or Mouse River, comes in from the same side, about two miles in a straight line below the lake. A third stretch of the river which has a nearly east course below Pine Lake, terminates with a rapid a mile and a half long. This is avoided by a portage (the eleventh), the tenth one being a mile higher up. The fourth reach of the Kenogami river bears N. 45° E., and is thirteen and a half miles long in a direct line. It embraces portages twelve to seventeen, and terminates on the eighteenth, which is the last to the junction of the river with the Albany, on which canoe navigation is uninterrupted to the Bay. The Atick or Deer River enters from the north, between the sixteenth and seventeenth portages. The fifth reach bears N. 80° E., and was followed for twenty-one miles, when we reached Pembina Island, which although not large, is easily recognised by a conspicuous light-coloured bank about thirty-five feet high, running for about a mile along the north side of the river, immediately above it. Throughout this last stretch the river is shallow, swift, and sometimes rapid. In the last twelve miles explored, it spreads in several places among low islands, and flat lying limestone is exposed in the bed of the river. In the same interval it receives the Mun-did-i-no and Wa-tis-ti-gum Rivers from the north, and the Pe-wo-na or Flint River from the south. The following register is given of the portages on Kenogami River:—

	Chains.	Fall in River.		
1.	14	20	feet.	Trail level and dry. Carry canoes.
2.	5	7	"	Trail level and dry. Wade light canoes.
3.	12	22	"	Banks of gravelly earth. Carry canoes.
4.	9	25	"	Burnt land. Sandy trail. Wade light canoes.
5.	6	12	"	Run light canoes.
6.	3	4	"	Run light canoes.
7.	34	24	"	Steep bank at lower end. Carry canoes.
8.	4	3	"	Run light canoes.
9.	2	10	"	Over rocks. Carry canoes.

	Chains.	Fall in River.		
10.	6	12	"	Lower end steep and rocky. Carry canoes.
11.	120	75	"	Trail level but intersected with a few small ravines. Steep bank near lower end. Soil yellow clay, overlaid by gravelly loam. Carry canoes.
12.	1	7	"	Over rock. Carry canoes.
13.	5	10	"	Over rock. Carry canoes.
14.	12	15	"	Level trail. Run light canoes.
15.	5	6	"	Level trail. Carry canoes.
16.	25	20	"	Level trail. Wade, full canoes.
17.	4	6	"	Level trail. Wade, light canoes.
18.	1	4	"	Numerous small islands of gneiss in river. Run full canoes down. Wade up.

With the exception of a few rocky ridges and knolls in the upper part of the river, the country through which the Kenogami flows to join the Albany River, is uniformly level. Terraces or banks of brown loam and gravelly earth from ten to forty feet in height are to be seen all along the Kenogami and around Pine Lake, sometimes close to, and at others a short distance from the banks. The soil in the neighbourhood of the river is good. The timber is principally spruce, balsam-fir, white-cedar, tamarack, white-birch and aspen. Some of the larger spruces and tamaracks have been found to measure as much as from four to five feet in girth, at five feet from the ground, but the average diameter of the trees is about eighteen inches. As the last twenty or thirty miles is reached, the ground becomes swampy, the trees diminishing in size, and value in proportion. The distances from Lake Superior to James Bay by this route would be made up as follows:

Lake Superior to Long Lake	22	miles.
Long Lake free navigation, about	54½	"
Kenogami River and Lakes on its course	90¾	"
Pembina Island to junction of Kenogami with Albany	99	"
Albany to James Bay	150	"
	416¼	"

The route from Pembina Island to the junction with the Albany and thence to James' Bay, is without portages, and admits of canoe navigation. It would, however, be more correct to say that the Albany to the point of junction is fitted for navigation by larger craft, a fact that has been well-known ever since the earliest opening of the Hudson's Bay Company's trade. It was at this point that Henly House, or Fort, was erected, to protect the trade of the Company against the attempts of the French Canadians to intercept the Indians coming from the west to trade their furs and peltries at Albany, and not a few sharp encounters took place between the rivals, who in a limited scale, thus maintained a warfare, too often raging on a far more extensive one between the representatives of their respective

nations nearer home. To the capabilities of the Albany for navigation as described by those who have tested them more recently, older authorities also bear testimony. Before a committee of the British House of Commons in 1749* one John Hayter, a servant of the Hudson's Bay Company, gave the following evidence: He said, "that he had been twelve days' journey up the Albany River to a Fort or Factory called Henly House, which is 150 or 200 miles up that River, that he saw large trees there but no corn." Being asked the occasion of building Henly House, he said "that the old leading Indian had been used ill by the Governor (at Albany) and brought four French Indians (Indians favourable to the French) from the Southerly to the Westerly River; upon which the Governor erected that Fort to prevent the French trade, who never traded there before that season." The Indians referred to had probably taken a route similar to the one we have just been discussing on the authority of Mr. Bell. The witness Hayter goes on to say: "that the climate is much warmer at Henly House than at Albany; but they broke no ground there and consequently he can give no account of the frost; that they carried up nothing but utensils and met with but few falls of waters (rapids) which they towed their boats up. That they were forced to row almost all day long, the stream being too rapid for boats to sail up even in a fresh gale; that it is impossible to tow the boats with horses on account of the badness of the ground, but one man tows a canoe of 24 or 25 feet long and 4 feet wide, which draws about eight inches of water and will carry a great weight; **** that the country about Henly House is very high but warmer than the coast; *** that he has seen large tracts of land that would, in his opinion, bear corn, (grain) if cultivated, the climate being much warmer within land." Long Lake being at a level of 466 feet above, and Pembina Island 120 feet below, the level of Lake Superior, a difference of only 586 feet in a distance of 140 miles, a road from the outlet of Long Lake to the point on the Kenogami which would be uninterrupted by portages would hardly be a work involving much labour or cost, if, indeed, it were not economical to construct it to the waters of the Albany itself.

Lake Nepigon to Albany.

We have, however, one more alternative route for reaching James Bay *via* Albany, and one that has also been very carefully explored. This would make the north-east shore of Lake Nepigon its starting point.† Lake Nepigon, as will be observed by the map, lies nearly due north of Thunder Bay, communication between the two lakes being maintained by the Nepigon River. The level of Nepigon is, however, some 250 feet above Superior, and, therefore, a lift of that extent would be required to improve the inter-navigation of the two lakes. That once provided, a clear stretch of one hundred miles would be secured and, if the

* Report Select Committee House of Commons 1749, p. 221.

† Geological Survey 1871-2, p. 101.

prospects of a large mineral production on the shores of Lake Nepigon be realised, as there seems good reason to believe they will, such a work would probably, in time, be demanded, by the exigencies of that and its dependent industries. From Lake Nepigon the Ombabika River is the first stream to be passed on the route to the Albany. The distance to the summit level of the height of land, where Shoal Lake discharges its waters, both north and south, is 25 miles. So easy is the passage of the height of land here that Mr. Bell in his report says: "No portage occurs on the Ombabika for about nine miles before reaching Shoal Lake nor for nearly five miles beyond its northern outlet, so that we passed the height of land with the greatest possible ease, having had about seventeen miles of uninterrupted canoe navigation from the time we made the last portage in going up on the southern side till we came to the first in going down on the northern." Shoal Lake has an elevation of scarcely 300 feet over Lake Nepigon. The distance given, 25 miles, is, by measurement, on direct line. The distance following the course of the stream would be 42 miles. If, however, a road were cut to the point at which the open navigation, mentioned by Mr. Bell, nine miles south of Shoal Lake, commences, it is probable it need not exceed some 18 to 20 miles in length the several portages on the Ombabika would be avoided and the rise of 300 feet easily overcome.

The Powitik River, which is the northern discharge of Shoal Lake, after a course of six miles joins the Ka-pi-ko-ton-gwa, which was descended by Mr. Bell and his party for twenty-one miles, where the Mokoké River was entered and the canoe route north-westward pursued to the Zhob-schquay, and by that stream the Ogoké, a branch of the Albany, was reached, a large river 500 feet in breadth and fifty to sixty feet deep with lagoons and marshes on either side These features it is reported to maintain for a long distance both above and below the junction of the Zhob-schquay, although, still lower down, it spreads itself out to a great width and becomes very shallow. But, leaving the Ogoké, the party entered the French channel, and at the end of a couple of miles, striking across a height of land that separates the Ogoké from the Ka-ge-i-na-gami, another tributary of the Albany, finally arrived at its junction with the Albany at a lake known as Lake Abazotikitchewan, a distance in a straight line of 83 miles from the mouth of the Ombabika River, or 142 miles according to the measurement of the distances actually travelled. In the course of the journey there are thirty-three portages, or twenty-nine, if a bend of the Ombabika be avoided by making one portage of sixty-six chains in length, by which means a distance of eight miles of river navigation may also be saved. From Abazotikitchewan Lake to Makokebatan Lake the distance is eight miles, but although there are several rapids there are no portages, the width of the river extending from ten or twelve chains at the rapids, to a mile in the intervening spaces. Makokebatan Lake is a fine sheet of water, sixteen miles in length, by a mile and a half in width. The Albany leaves the last-named lake by two channels, which reunite at Moosewaké Lake,

twenty miles below Makokebatan. The northern channel has, meantime, flowed through a lake called Washi-saigan, or Lake of the Narrows, formerly known as Gloucester Lake, from a Hudson's Bay post so called that once stood in the vicinity. From Moosewaké Lake to Martin's Falls, in a distance of twenty miles, the river is full of islands and rapids. Martin's Falls, so called, is really only a rapid of some 12 or 15 feet easy descent, and readily passed by canoes. Between Makoketaban Lake and Martin's Falls, there are fifteen portages. But, at the Falls, the character of the river changes. The Falls are full 120 miles above the junction of the Kenogami River with the Albany, which, as already stated, is probably 150 miles from James Bay. For the whole course of 250 to 270 miles to the sea, the Albany is from twenty to thirty chains in width, from five to twenty feet (averaging about eleven feet) deep, and has a mean velocity of three miles an hour. In the opinion of Mr. Bell, the river would, except in very low water, be navigable by powerful steamers of light draught all the way from its mouth to the Falls. At Martin's Falls is a Hudson's Bay Post, "where hay, turnips, and potatoes have, for a long time, been successfully cultivated, and cattle thrive well." The river is open, as shown by the journal kept at the post for six months in the year. So free is it from obstructions below the Falls, that the Hudson's Bay boats, in descending, are allowed to drift all night with the stream, the submerged top of a pine tree being sufficient to keep them in the channel.

The total distances traversed by the surveying party are given in the report as follows:—

	Miles.
From Lake Nepigon to the Albany.....	142
Albany to the mouth of the Kenogami River..	184
Kenogami mouth to James Bay	150
Total Miles.....	476

or, from Thunder Bay one hundred miles more, making the entire distance 576 miles. The question of actual distance, however, is of even less importance than the facilities of this route as compared with others. It must be recollected that, at Thunder Bay, there is already a considerable population, and one of a very enterprising character; that it is the head of the great lake navigation, and also likely to be the resort of a very large tonnage of vessels from the United States as well as from Canada. In view of a trade being opened up either with any section of the region intervening, or with Hudson's Bay, the considerations suggested must have great weight. Again, the Hudson's Bay Company were, aforetime, accustomed to bring in their goods from Europe *via* Moose for distribution at Fort William and other stations, the payment of customs rates, in the absence of governmental supervision, being thus avoided. And if it should turn out that a trade with Europe can be opened from Hudson's Bay to any extent, the

busy and growing communities on the shores of Lake Superior and beyond, would naturally expect to benefit by their comparative contiguity to an Atlantic port. We may find, too, in the course of our inquiries, that the mineral region around Nepigon, as well as Superior, will need supplies that a more fertile region to the northward will afford, and for which a route corresponding with some of those already traced out will have to be found. Dividing the course followed by Mr. Bell into open, and obstructed or interrupted sections we have the following result:—

From Nepigon by the Ombabika with the portages, to the Shoal Lake and Powitik River seventeen mile reach, 33 miles, reduced by 68 chains portage at bend to	25 miles.
From seventeen mile reach (open)...	17 "
To Albany at Lake Abazotikitchewan (with portages).....	92 "
Lake Abazotikitchewan to Martin's Falls (with portages)	64 "
Martin's Falls to James' Bay (open).....	270 "
	468 miles.

With one sweep of 270 miles, the distance in which any interruptions to an unimpeded traffic occur, is thus reduced to less than 200 miles between the great inland lakes and the ocean, and there does not appear to be anything in the nature of the country to make such local improvements as may be needed to facilitate travel or the carriage of freight unreasonably expensive. The explorations of Mr. Bell and his assistants, have been, it is evident, conducted with great intelligence and perseverance. Still they have been, of necessity, more or less hurried, and consequently partial. A very careful examination of the whole country would be needed before pronouncing authoritatively on the advantages of the respective routes, the prospects of settlement, the tokens of latent wealth, or the means of reducing the labour of a journey from point to point to a minimum.

Lake Abbitibbe Route.

The reports of the Geological Survey do not contain any account of explorations over the River Abbitibbe to Moose Factory, although that route has, doubtless, been, in past times, well travelled by voyageurs coming by way of the Ottawa River, from the head waters of which it is separated by only a short distance. Lake Abbitibbe lies nearly east and west, a little north of the height of land and on the Ontario and Quebec Boundary line, about one-fourth of its area, according to the Government maps, being in the latter Province. The River Abbitibbe may be said to rise in the height of land and to flow through the Lake, for the same name is given to its most important feeder from the southward as that of the stream that issues from its western extremity and, after a dip to the south, flows northwest to James Bay. From Lac des Quinze—an expansion of the Ottawa described

by Mr. McOuat of the Geological Survey* as in most parts about a mile wide and some twenty-three miles in length—with the exception of one short portage at a fall of four or five feet on Lonely River, the navigation for canoes is uninterrupted to within half a mile of the height of land which separates the waters of the Ottawa from the rivers flowing into Hudson's Bay, and there is scarcely a perceptible current to overcome. The distance is thirty-one miles. The height of land is but some three-quarters of a mile to a mile in length. That passed, the waters of the Abbitibbe are touched at a small lake lying at the foot of the height of land, Lake Abbitibbe itself being reached by way of Lake Matawagogig, eight miles and Lake Agotawekaim, six miles long, connected by a small stream with four short portages in a distance of eleven miles. Here the southern Abbitibbe is struck and traversed for nine miles until it joins the Lake. Adding together the several stretches of water and portage the distance to Lake Abbitibbe from Lac des Quinze will be about 67 miles, and from the height of land 35 miles. The total length of Lake Abbitibbe, or rather of the two lakes into which it is divided, is forty-seven miles. From the south-west corner flows the northern Abbitibbe, first south-west, then west, to its first fall, a distance of seven miles. From this point in a straight line to its mouth, where it enters James Bay by the same outlet as the Moose, the length is about 200 miles, making an approximate distance by this route, allowing for the sinuosities of the river, of probably 350 miles from the height of land or 380 from Lac des Quinze, to James Bay. Traces of iron are found in the neighbourhood of Lake Abbitibbe but not in large quantities, and one curious feature is a magnetic island situated about the middle of the west side of the lower lake, so powerfully attractive that the surveyors' compasses were useless in its vicinity. On the northern slope of the height of land "groves of white pine were observed in all directions" "several pine trees were measured and found to be eight or nine feet in circumference." White spruce, yellow birch and cedar, are also tolerably abundant and of good size, some good specimens of the latter being noticed in the hollows among the hills on the south shore of Lake Abbitibbe. Around the lake itself pine is scarce, although a few well-grown trees were noticed. "Lake Abbitibbe," says Mr. McOuat, "is surrounded on all sides by level clay land; *** several acres are cultivated at the Hudson's Bay Post, and a French Canadian, who has been more than thirty years at Abbitibbe, although the only crop now raised there is potatoes, insisted that all the ordinary cereals could be cultivated as successfully at Abbitibbe as on the St. Lawrence.

From Lake Nepigon to Lake St. Joseph.

In following up the explorations of Mr. Bell, we have incidentally surveyed the larger portion of the tract forming the eastern half of North-Western Ontario. The only section remaining is that lying between Lake Nepigon and Lake St

* Geological Survey, 1872-3, p. 119 et seq.

Joseph or the head waters of the Albany. This region, like all the rest of the new territory, is intersected with rivers, lakes, and streams. The construction of the Canadian Pacific Railway will do much towards utilizing these means of access to the more remote districts. The information at command leads to the opinion that it is neither a desert nor altogether inhospitable. At Lake Wabigon the Indians cultivate maize, and although in a country so prolific of pine as is Canada other woods are in danger of being undervalued as an element of national wealth the spruce and tamarac, which seem to become finer and more valuable the further, north they extend, are a class of timber that bear a good merchantable reputation, where they can be easily and cheaply conveyed to market. The tamarac for railway purposes finds an enormous consumption, which will increase as the construction of lines either by the Government or as the result of private enterprise is promoted in the North-west, while for ship-building, it is an excellent material.

Physical Peculiarities and Aspect of Eastern Division.

Occasional reference has been already made to the physical peculiarities and aspects of the country traversed by the surveyors of the routes to Hudson's Bay from Lakes Nepigon, Superior and Huron. A little closer examination of the information at command on this point, may be interesting. The termination of the portages and the comparative smoothness with which the rivers falling into James Bay pursue their course from points at a considerable distance from their ultimate destination is thus accounted for:* "Between the great lakes and James Bay, the country is of a very different character in each of the two geological areas which it embraces, namely, the Laurentian and Huronian plateau, and the palæozoic and (probably) tertiary basin of James Bay. The former is somewhat elevated, undulating, and dotted with great numbers of lakes, while the latter is low, level, and swampy, and as far as known, generally free from lakes, constituting a well-marked geographical as well as geological basin, bounded by a distinct vein of hard, ancient rocks for five-sixths of its circumference, since it contracts to a width of only about 200 miles, where it opens into Hudson's Bay on a line between Capes Jones (on the east), and Henrietta Maria (on the west). This rim is high, and has a steep slope towards the centre all round. Owing to the unyielding nature of the rocks, all the rivers running into James Bay meet with a great and generally very rapid descent on reaching the edge of this basin. As a consequence, the "long portages" on all of them occur where they pour down this slope." While the term rocky is very generally applied to the whole of the area lying between the lakes and James Bay, it is asserted, on very good authority, that the proportion that is "rocky" in the popular signification of the term, is less than is commonly supposed. Mr. Bell, who, from his continuous and

* Geological Survey, 1875-6, p. 338.

very able devotion to the study of the subject, we are again tempted to cite, points out that the fact of the high and rocky points being more conspicuous than the levels, and the further fact that the portages usually occur at rocky places, is very likely to produce a generally exaggerated and erroneous impression.* He goes on to remark: "Loose materials of some kind actually cover the greater proportion of the area, and in a very considerable per centage of it, the soil is more or less suited for agriculture. Its precise nature, in various sections, has been described in my reports from 1869 to the present one. As a matter of experience in this sort of country, in the district of Algoma and elsewhere, the quantity of cultivable land, on the establishment of settlements, always proves to be much greater than it appeared while in a state of nature. In a general way there is perhaps a greater proportion of good soil in the plateau region northward than southward of the height of land." This will apply, probably, with great fairness, not only to the area referred to as a whole, but to the most limited portions that may be traced along the courses and on either branch of the rivers. The general aspect of the country traversed by the Mattagami or south branch of the Moose, is undulating, but the inequalities do "not often exceed one or two hundred feet." Rock crops up here and there, the land otherwise consisting of a a sandy and gravelly subsoil, underlaid by bouldery earth or clay, and having more or less vegetable loam upon the surface. From the foot of the Long Portage to the sea, the basin already described is entered. The banks of the river are not often high, and are usually composed of gravelly and bouldery earth and clay. The banks sustain a second growth of poplar, and white birch, with some coniferous trees, but at a short distance back, the ground is swampy and covered with black spruce and tamaracs growing on a deep layer of sphagnum moss. The islands and mainland about the mouth of the river, consist of alluvial earth well suited for cultivation. Farming and gardening have been very successfully carried on at the Hudson's Bay posts at Lakes Mattagami and Missinibi. At Missinibi spring wheat has been grown and turned out well. The climate becomes more moderate as the slope towards James Bay is descended, the lower level being a compensation for the increasing latitude. The red and white pine are both found in the neigbbourhoods of Mattagami and Kenogamissee Lakes, and also at Lake Missinibi, but not further north. Indications of mineral deposits present themselves at various points on the route, and large deposits of gypsum occur on the Moose, near James Bay. A specimen of lignite from the main Moose River gave the following analysis:†

	Slow coking.	Fast coking.
Fixed Carbon	45.82	44.03
Voluble combustible matter	39.60	41.39

* Geological Survey, 1875-6, p. 339.

† Geological Survey, 1875-6. p. 422.

	Slow coking.	Fast coking.
Water	11.74	11.74
Ash	2.84	2.84
	100.00	100.00
Ratio of voluble to fixed combustible	1.16	1.06

The lignite is very similar to some found in the Souris Valley, and also to specimens collected for analysis from the neighbourhood of Dirt Hills and Woody Mountain in the North-west Territory. An analysis of ore from a large deposit on the Moose, at the foot of the Grand Rapid and below the Long Portage, has yielded 52.42 per cent. of metallic iron.*

James Bay.

Having noticed most of the several approaches to James Bay from the south and west, and supplied at all events material on which some calculations may be made as to its accessibility, we shall direct our attention to the Bay itself and its more immediate neighbourhood. James Bay is a sheet of water 300 miles in length, measured from its most southerly point, to a line drawn from Cape Jones, on its eastern, to Cape Henrietta Maria, on its western coast, where it suddenly expands, and Hudson's Bay is entered, of which James Bay is simply an inlet. James Bay, except at its southern end, where it becomes irregular and more narrow, is about 150 miles in width, its shores being almost parallel for nearly 250 miles. It received its name from Captain James, one of the North-west passage explorers, who wintered in the Bay at Charlton Island, in the year 1631. It is described as being so shallow that, with the exception of a channel down its centre, the bottom may be touched with an oar by a person rowing in a small boat when almost out of sight of shore. The ship channel runs from a point opposite Moose Factory, in the south of the Bay the whole distance to Mansfield Island in Hudson's Bay, 750 miles north in nearly a straight line. In traversing this channel a chain of islands, 500 miles long, is passed, many of them of large size, and having rivers that discharge into the larger or smaller Bay. The southern and western shores of the Bay, which represent the portion forming the Ontario Boundary, are low and level, and owing to the extreme shallowness of the water at some places, they are difficult of approach from the Bay. "Between high tide water mark and the woods," says Mr. Bell,† "there is generally a broad space or marshy belt interspersed with willow bushes and divided by muddy creeks. In some places this open border is raised above all but the highest spring tides, and constitutes a level prairie, supporting a rich growth of grasses and sedges. The marshy outline of the shore of the Bay is often interrupted by points and peninsula-

* Geological Survey, 1875-6. p. 431.

† Geological Survey, 1875-6, p. 322.

like islands composed of boulders piled together in thousands, with scarcely any fine material among them." In the southern part of James' Bay the water, although tidal and brackish, is in some parts so free from saline matter as to be used for drinking. This peculiarity is ascribed to the immense volume of fresh water poured into the bay from the great rivers of which it is the outlet. Its muddiness, caused by the ebb and flow of the tides over so shallow a bottom, is also fatal to the existence of fish, which, conseqently have to be sought for in a more northerly situation.

Moose Factory

Moose Factory, at the mouth of the river of that name, is situated on a small island, six or seven miles from the Bay. The factories of the Hudson's Bay Company are not located anywhere with a view to the advantages of settlement, convenience for trade with the Indians and hunters, and protection in more troublous times than the present, having been the objects most in view in the selection of their sites. The soil at Moose Factory is of cold wet clay, on a level and quite undrained. Nevertheless, oats, barley, beans, peas, turnips, beets, carrots, cabbages, onions, and tomatoes, are grown with no more care for their protection or production than is shown in any other part of Canada. A crop of 1,700 bushels of potatoes was harvested in 1874, and wheat, accidentally sown, had ripened although no experiments as to the ordinary capacity of the soil and climate for its production on a larger scale appear to have been recently made. That this is no barren or famine-stricken land may also be seen from the fact that, at Moose Factory there is quite an establishment of horses, sheep, and pigs, in addition to eighty head of cattle. The Right Reverend Dr. Anderson,* in his evidence before the House of Commons Committee, in 1857, suggested that the means of living were more precarious than formerly at Moose Factory, but his remark probably applied to wild geese or other resources of the Indians, and not to those of settlers depending on the cultivation of the soil or domestic live stock. Mr. George Gladman, who was literally a child of the Hudson's Bay Company, for he was born at New Brunswick, one of their posts on the Moose River, and resided at Moose Factory fifteen years, gave a very favourable account of the productions of the district.† He stated that the climate and soil were good; that potatoes and vegetables were raised in great abundance; that barley ripened well; that small fruits, such as currants, gooseberries, strawberries and raspberries were plentiful and grew wild; that wheat, owing to the shortness of the season, had never been tried, but that horned cattle, horses, sheep and pigs, were kept there and did well. They required, of course, to be housed in the winter. At Albany, which lies in latitude 52 degrees 8 minutes, north, the climate and soil, Mr. Gladman stated, were similar to those at Moose Fort, although it is considerably further north. It is well sheltered and the

* Report Select Committee on Hudson's Bay Co. to the House of Commons (Eng.), 1857, p. 241.

† Report Select Committee on Hudson's Bay Co. to the House of Commons (Eng.), 1857, p. 391.

marshes on the banks of the river and shores of the Bay yield inexhaustible supplies of hay, a fact that is worthy of notice in connection with settlement in any part of the James Bay area, as securing an abundant and cheap fodder for cattle.

Sir George Simpson, on the other hand, discouraged the idea that the soil could be successfully or profitably cultivated at Moose Fort.* "Barley," he said, "very seldom ripens, the potatoes are exceedingly small, and the crops unproductive." But Sir George Simpson was too clearly convicted, during his examination of partisan feeling in favour of the Hudson's Bay Company, and too antagonistic, to the opening-up of their close preserve, to be accepted as a reliable witness in opposition to the independent testimony of other persons. Nor are we confined to the assertions of those whose reports have been already quoted, although no good reason exists for casting doubts upon them. The capacity of the James Bay region for supporting any population that the temptations of commerce may draw thither, and that is, practically, all we need to know, were perfectly well understood a hundred and fifty years since. In a description of the countries adjoining Hudson's Bay, published in 1744,† is a statement by a Mr. Frost, who had resided at Moose Factory since 1730, and who gave a very good account of the climate and country there, and of the river southward. The purport of Mr. Frost's information was, that on the banks of the Moose wild rice grew in great abundance, the Indians beating it off the plant into their canoes when ripe, and that all sorts of grain could be raised in the vicinity of the river a little to the southward, while, at Moose Factory, barley, peas, and beans, thrive well, "although exposed to the chilling winds which come from the ice on the Bay." In the woods at the bottom of the bay, he goes on to say, both at Moose and Albany, as well as at Rupert's River (on the east coast), are large trees of oak ash, pine, cedar and spruce. "They have," he adds, "exceeding good grass which improves every day as they cut and feed it, and may have everywhere within land all sorts of pulse and grain, and all sorts of fruit trees as in the same climate in Europe; for what sorts they have tried throve well." In another book published in 1752,‡ it is stated that at Moose Factory "sown wheat has stood the winter frosts and grown very well the summer following, and that black cherries also have grown and borne fruit. Before the Commons' Committee in 1749, several witnesses gave evidence confirmatory of the above.§ Mr. Edward Thompson, three years surgeon at Moose Factory, had seen far better barley and oats grow at Moose River than he ever saw in the Orkneys; but the quantity sown was small. The seed would bear sowing again, but diminished in goodness. "There was ground enough broke for this corn (grain), but never any encouragement given for sowing it. but quite the reverse, the Governor forbidding it for no other

* Report Select Committee on Hudson's Bay Co. to House of Commons (Eng.), 1857, p. 46.

† An account of the countries adjoining Hudson's Bay, by Arthur Hobbs, Esq., London, 1744, p. 45.

‡ An account of six years' residence in Hudson's Bay, by Joseph Robson, London, 1752.

§ Report of Select Committee on the State of the Hudson's Bay Company, 1749, p. 222.

reason, than that *if corn (grain) had been sown, a colony would soon have been erected there.*" The residents of any settlements on the shores of James Bay would not, however, be confined to food raised by agricultural labour. The rivers abound in pike, trout. perch and a fish, probably white fish, from the description. Enormous flocks of wild geese frequent the rivers and bay, and countless flights of wild duck breed in the marshes near the mouths of the Moose and Albany. As many as 20,000 wild geese have been shot in one season, the slaughter only being stayed because no more were needed. In addition to these, there is an abundance of partridges, plovers and other birds familiar to the sportsman.

Climate at Moose and Albany.

Mr. Bell, as previously mentioned, gives the neighbourhood of the Bay credit for a milder climate than is experienced further inland at a higher level. Mr. Frost, quoted in Hobbs' work, states that, at Moose Factory the ice breaks up in April. Mr. Matthew Sergeant, an employé of the Hudson Bay Company, in his evidence before the Committee in 1749, stated, that the thaw begins at Albany about the 8th or 10th of April, when there is a good soil for six or eight inches which may be gained within a fortnight after the beginning of the thaw; that in two or three weeks more it thaws to the depth of two feet, commonly by the beginning of May; and the frost sets in again about the beginning of October; but the frosts break sooner up in the country and come in later.* A journal kept at Albany Factory gives an exact account of the weather and climate at that post in the years 1729–31.† The frost, it is recorded in this document, began in October in 1729, about which time the geese that had returned from the northward to that River in August, departed from thence to the more southern countries. The creek near the Factory was frozen over on the 13th; by the 21st there was a good deal of ice floating in the river; by the 31st it was fast as far as Charles Creek; by the 5th November the whole river was frozen over, but not so strong as to bear; the weather was temperate with some snow to the 27th; all the month of December was interchangeably three or four days cold, and then a temperate frost with some snow; the month of January much the same, cold and temperate interchangeably; the month of February was variable but mostly moderate, at intervals warm, and then sharp weather; March to the 8th was warm, temperate frost; from that time to the 17th fine clear weather, with some snow; thence to 29th clear weather, tolerably warm; on the 30th a storm of snow; and then it began to thaw in the middle of the day; it continued thawing till the 5th of April, then two days frost; it thawed again till the 13th after the geese returned from the southward; then to 17th raw, cold weather; 18th warm and rain; then interchangeably warm and raw weather until the 28th, when the frost

* Report, 1749, p. 220.

† Hobbs, p. 12.

was broken up in the country by the freshes (freshets) coming down; the 29th the ice gave way to the head of the island, and next day drove down to Baily's Island, when all the marshes were overflowed, the Bay not being yet thawed; the ice continued driving in the river until the 5th of May, then the river fell five feet by the breaking up of the ice at sea; the 7th they had thunder and rain, the ice still driving in the river; the 8th the Indians came down in their canoes to trade; to 13th they had raw, cold weather; 16th they began to dig their garden; 22nd the tide began to flow regularly; the 23rd they sowed their turnips; the geese then went to the southward to breed; raw, cold weather until the 29th; 30th variable weather with some hail and snow; from that time till the 12th of July fine warm weather; then to the 7th September warm or very hot weather; to the 18th warm and temperate; then to the 25th variable and temperate with some rain; then frost in the night; fine weather until the 29th; October 2nd and 3rd some frost and snow in the night; to the 12th fine weather; stopped fishing, having no frost to freeze the fish; to the 24th fine warm weather with small frost; the 28th ice in the river and the geese going away; November 13th the river full of heavy ice; the 18th it was moderate weather; the winter was not so severe as the former; the geese returned the 14th of April, 1731; the freshets came down May 5th, the 12th the ice was gone to sea; the 13th the Indians came down to trade in their canoes; they had fine warm weather that year from the 11th of May to the middle of September. The Albany was frozen over on the 10th of November. This perfectly reliable narrative certainly does not show the climate of James Bay to be more severe than in many of the settled portions of Canada. That 1729 was not exceptionally mild, is evident from the remark, that, in 1730, it was not so severe as in the former year. There is nothing in the description here given to show that the inhabitants of the south shore of James Bay need want for any of the ordinary pleasures or comforts of life, or be more unfavourably circumstanced in regard to the length of the inclement season, than many of their fellow countrymen even in some other portions of the Province of Ontario. The attractions to settlement will be only ascertained after more thorough and systematic explorations than were possible in the brief period of time allotted to the surveyors of the Geological Department, and, although the officers of the Hudson's Bay Company have now thrown off the reserve once enjoined upon them, and show much praiseworthy anxiety to afford information as to the resources of the country, there has never been, under their auspices, any such thorough and exhaustive examination of its hidden treasures as the indications of their existence would justify.

Mineral Resources of James Bay and Neighbourhood.

While at Moose Factory in 1875, Mr. Bell was presented with specimens of massive iron pyrites, dark, smoky chert, like that of Thunder Bay, epidosite,

agate, carnelian, quarry crystals, galena, and black crystalline siderite, containing rather a large amount of manganese, all from the mouth of Little Whale River. Little Whale River is on the east coast of Hudson's Bay near the northern extremity of James Bay, and north-east of Moose Factory. It is consequently not within the limits of the Province of Ontario, but its accessibility from Moose River renders its deposits available to any enterprise directed from that point. Mr. Bell, in his report says :* "The conglomerates are said to be largely developed between Cape Jones and Little Whale River. At Moose Factory, I was shown a pile of flagstones which had been brought from an island about seven miles north of Little Whale River. This rock is a very fine-grained semi-crystalline non-calcareous olive-grey felsite. I was given some chips of a somewhat similar, but slightly calcareous rock, holding bunches of small crystals of iron pyrites, which were said to have came from the same vicinity." The specimens of lignite found on the Moose River or rather at the mouth of Coal Brook, a confluent of the Moose, and analysed by Mr. Hoffman, have been already referred to. Another object of interest, and one demanding careful research, is the appearance of a mineral that closely resembles, if it is not the true, anthracite. Mr. Hoffman's report of his analysis of a specimen of anthracite from Whale River is as follows :†

"It is not improbable that the mineral may have an origin analogous to that of the black anthracite matter which occurs in many places in the Quebec group, as also in the chert beds among the upper copper-bearing rocks of Lake Superior, and alluded to in the Geology of Canada, 1863, pages 525 and 68. The specimen examined was very compact, homogeneous; colour, pitch black; powder, deep black; lustre, bright metallic; fracture, highly conchoidal; it does not soil the fingers. When boiled in a solution of caustic potash, it was apparently unacted on; the solution remained colourless, and the powder black. Gradually heated, or when projected into a bright, red-hot crucible, in either case decrepitated but very slightly." The following is the mean of two very closely concordant analyses :—

Fixed carbon	94.91.
Volatile combustible matter	1.29.
Water	3.45.
Ash	0.35.
	100.00.

Coal, whether anthracite or bituminous, is so potent a factor in all commercial operations, whether as a mechanical agent or as an article of traffic, that the most important results might flow from the discovery of any extensive deposits within

* Geological Survey, 1875-6, p. 323.

† Geological Survey, 1875-6, p. 423.

a distance not more remote from the commercial centres of Ontario than many of their present sources of supply. Mr. Hoffman* also reports that a specimen of iron ore from a large deposit on the north-west side of the south branch of the Moose River, at the foot of Grand Rapid, below the Long Portage, contained 52.42 per cent. of metallic iron. Mr. Bell, speaking of this ore, says:† "The position of the deposit is on the north-west side of the river, at the foot of the rapids. It runs along the cliff for a distance of upwards of 300 yards, with an exposed breadth of twenty to twenty-five yards. The highest points rise about fifteen feet above the level of the river. The surface is mottled, reddish-yellow and brown, and has a rough, spongy, or 'lumpy' appearance, like that of a great mass of bog ore. On the surface, and sometimes to a depth of several inches, it is a compact, brown hematite, occasionally in botryoidal crusts, with a radiating columnar structure; but deeper down it is a dark-grey, compact, very finely crystalline spathic ore, apparently of a pure quality. The brown hematite evidently results from the conversion of the carbonate. The former yields, according to the analysis of Mr. Hoffman, 52.42 per cent. of metallic iron, while the latter shows a very small amount of insoluble matter: indeed there is, chemically, little room for impurities, since it gives rise to so rich a brown hematite."

The gypsum beds on the Moose are thus described:‡ "The bank on the south-east side runs for above two miles; that on the opposite side about half that distance. The gypsum consists of a bed of the ordinary hydrous saccharoidal variety running along each side of the river and rising to a height of not more than ten feet above low-water mark. It is mostly of a light-bluish grey colour, with some whitish portions coloured or mottled with yellow and other colours. The white variety, suitable for making stucco, was not observed to be in sufficient quantity to be of economic value. * * * * A gypsum bank, similar to the last, runs along the south-east side of the river, between four and five miles below the extremity of the higher one, on the same side."

In a letter which recently appeared in the Toronto *Globe*, Mr. William Hickson, a gentleman of evident intelligence and powers of observation, and formerly in the employ of the Hudson's Bay Company, thus refers to the mineral deposits on the shores of James Bay: "At a certain point on the east coast of James Bay there is a vein of magnetic iron, so extensive, that, when examined by a practical English miner in 1865, it was pronounced by that gentleman to be one of the most valuable veins of that ore in existence. Plumbago, in a pure state, is also to be found in the same locality; and at this place is the commencement, on the sea coast, of a range of mineral-bearing rocks, which extend along the main land, and among the islands near the shore, for a distance of 600 miles, with a

* Geological Survey, 1875-6, p. 431.
† Geological Survey, 1875-6, p. 321.
‡ Geological Survey, 1875-6, p. 321.

width of from fifty to two hundred miles or more, into the interior of the country. * * * * At certain points on this range a partial examination has been made, showing that galena, iron, and copper are procurable in almost unlimited quantities, and during a thirteen years' residence at various parts on this east coast, I had ample opportunities for examining both its geological and mineralogical formations, at a great many points, both in James and Hudson's Bay, and have no hesitation in stating that I believe it to be the most valuable mineral region in the Dominion, perhaps on this continent."

The Wild Animals of North-Western Ontario.

Most of the wild animals of North-Western Ontario are to be found in greater or less numbers over both the eastern and western portions. Cariboo range all through the territory, either singly or in small parties of eight or ten. A curious change in the habits of these creatures has been noticed, and one that certainly speaks wonders for their instinct, if the circumstances be as related. It was formerly the habit of the cariboo to migrate during winter in vast herds to the colder regions north of the Nelson River. Thousands of them collected together for their northern march, the crossing of the Nelson being always effected at pretty nearly the same period every year. This fact being well known, they were watched for, and a certain number were killed, their condition in the fall being very favourable for the purposes of the hunter. But, in one fatal year (1832), a grand *battue* was arranged; Indians and whites gathered from all parts for one tremendous massacre. The poor cariboo were slaughtered by wholesale, and in sheer sport, the carcases that could not be consumed or carried off floating in heaps down the waters of the Nelson to Hudson's Bay. And—strange to tell—the cariboo have, since that terrible day in the annals of cariboo history, never crossed the Nelson again. The Moose are becoming very scarce in the region west and north of Lake Superior, although still plentiful, it is said, in the neighbourhood of Lake Nipissing. Black bears are very numerous everywhere. In the vicinity of James Bay and Hudson's Bay, there is a bear, dark-brown in colour, and in form halfway between the common black and polar bear. This bear is exceedingly fierce and dangerous to attack, while the black bear is seldom known to show ferocity of disposition. The latter may be tamed, but the brown bear of Hudson's Bay is untameable and resists, even when captured young, all attempts at its domestication. Wolves are scarce, as also are their chief prey, the red deer. Red deer once abounded in the region west of Lake Superior, but the destruction of the forests by a great fire about 200 years ago, or near the time of the advent of the first white settlers—and the signs of which are seen in the age of vast forests of trees of about 200 years' growth—drove out or destroyed the red deer, deprived them of their means of support, and, probably, led to the migration of the wolves to places where they too would secure food and shelter. Buffalo were seen by early settlers near Rainy River, but they are not now found nearer than some 300 miles west of Fort

Garry. The lynx is frequently met with, and so too is the thievish and mischievous wolverine.

The rabbit, or rather hare—for it is of the character of the latter animal the Canadian representative of the genus partakes—is ubiquitous here as elsewhere. The rabbit is the chief food of most of the smaller carnivora and their numbers largely depend on his fecundity. In times past too, the Indians found in the rabbit their staff of life. His flesh was their meat, his skin, worked up into every form of robe and garment, was their chief covering. But there came trouble to rabbits and to their human, as well as brute, destroyers. In 1868 a pestilence attacked the rabbits of the whole northern part of the continent. They died in millions, and, in Quebec, local authority had to be invoked to prevent the diseased bodies of rabbits picked-up in the woods being sold in the markets. The Indians, who had most depended on rabbits for their supply of food, were terribly distressed and but for the progress of the Dawson road, and works connected therewith, many would have starved. As it was, some 200 were engaged by Mr. Dawson and thus temporarily supported. It is to be mentioned to their honour, that they showed the utmost anxiety to send to their suffering families all they could earn and spare from their own necessities. The rabbits are now again multiplying as only rabbits do multiply. There is a sort of tradition that they are cut off, or fail to increase, periodically about once in seven years, but this is probably only a local belief. It is not a small allowance of rabbit, however, that will satisfy the needs of a hungry man, white or Indian. The flesh contains but a small proportion of nourishment, and three or four rabbits per diem are not too many for an ordinary backwoods or pioneer appetite. The common brown, and the more rare and very beautiful silver fox, are among the denizens of North Western Ontario. The black fox, a beautiful creature with silky hair, and whose skin sells for as much as forty pounds sterling, while an ordinary fox skin is not worth more than a dollar, is now and then seen and captured, but, as the price paid for his coat would imply, is regarded as a very extraordinary spoil by the hunter.

Beaver abound on the streams and creeks. It is satisfactory to learn, too, that they are increasing instead of diminishing. In the early days of settlement the Indians and white trappers took pains to preserve the beaver from extinction. But, with the invention of beaver hats and other demands upon the beaver's coat, the price of beaver skins rose, and cupidity got the better of prudence. For some years, however, furs have been low in price and the use of beaver for hats has all but ceased, so the beaver is recuperating his numerical strength. The otter, fisher, and mink, are plentiful; while, in the more northern regions, the marten attains a high degree of beauty and corresponding value. The musk-rat builds whole cities of his dwellings on the banks of the rivers and seems to defy the destructive operations of his enemies, for he flourishes and even increases, although, in the Rainy River District alone, no less than 90,000 musk-

rat skins have been collected in a single year. The beaver and musk-rat are both "good eating" and figure prominently in the Indian dietary. The ermine, a very beautiful and easily tamed creature, is also a familiar acquaintance of the Indian and settler. The ermine is of a brown colour in summer, but in winter becomes perfectly white, with a black tip on its tail, in which condition it is most valuable for marketable purposes. The opossum is a native of the territory and in the southern part the porcupine is occasionally found. His flesh is a delicacy. The common red-squirrel abounds and there are a great many large squirrels both of a brown and grey colour. An unpretending but very prolific creature is the deer-mouse, looking, as it poises itself on its hind legs, like a diminutive kangaroo. It is of a hybernating disposition and, like the squirrel, provides an ample winter store, a colony of deer-mice having been known to carry off half a barrel of peas that had been left unprotected. Of the odorous skunk and every other American representative of the weasel tribe there are varieties enough to gratify the most passionate student of that branch of natural history. Many of the feathered inhabitants of the territory have been referred to already. The partridge, fantail grouse and water fowl of all kinds, are extremely plentiful. The feathers of the wild goose and the down of the wild swan have long been articles of trade by the Hudson's Bay Company.

Indians of James Bay.

The Indians of James Bay and western shore of Hudson's Bay are like those of the Rainy River district, members of the great Algonquin family. A large area of country, lying between Nelson River on the north and Lake Superior, has not yet been the subject of treaty arrangements with its aboriginal possessors. The Indians subsist largely by the chase, and the sale of its produce to the Hudson's Bay Company. At Moose River Post, York Factory, and on the English River, the Church Missionary Society has maintained stations, and, according to the testimony of the Right Rev. Dr. Anderson, already mentioned in connection with the Parliamentary Committee in London in 1857, the results have been satisfactory.* The Bishop, as previously noticed, took an unfavourable view of the agricultural capabilities of the country and, according to his evidence, some such views must have more or less affected the policy he directed. The difficulty of producing permanently serious impressions on men leading a purely roving life, or inducing them to conform to habits of settled industry, is almost insuperable. But, in addition to the direct benefits, in a religious sense, conferred by missionary efforts, the influence on the relations of the two races exercised by the presence of such an organization as that of the society referred to can be but advantageous in elevating the tone of a population in its primitive state, and giving the Indians a sense of having in their midst disinterested advisers or protectors.

* Report of Committee, p. 236.

Dr. Andersons's motives for objecting to the abolition of the Hudson's Bay Company's monopoly in furs were indicated in a memorial he addressed to the Governor and Committee of the Company, in which he says:* "After four years' residence in Canada, my opinions are unchanged as to the evils that would follow free trade in furs. It would doubtless enable unscrupulous adventurers to make money in the southern part of the territory. Rum would be largely used, and the Indians greatly demoralized, and difficulties thrown in the way of missionary operations. I never hesitate to express my opinion to that effect, whenever I am asked what I think of the movement." The admirable effects of the policy pursued by the Government of Canada towards the Indians of the North-west Territories, and the general result of the system, on which the whole Indian population of the Dominion is provided for, have dispelled many of the fears others besides Dr. Anderson may have once entertained as to an influx of white settlers. But it is easy to see how, looking at the questions before him from such a point of view, he may, unconsciously perhaps, have done an injustice even to the character of the country itself.

Hudson's Bay.

Our references have hitherto been mainly to matters directly bearing upon the interests of the Province of Ontario in the territory now brought within its jurisdiction. But, in the waters and country lying beyond the boundary line fixed by the arbitrators, the people of Ontario have, in common with the whole Dominion, also an interest, and, from their geographical position, it may be anticipated that they have even a larger stake in the explorations and developments of those regions than others. To them, if communications be established with James Bay, the whole coast line of Hudson's Bay will be accessible, as also will the fisheries in its waters, while, should it be attempted to utilize the Nelson River Valley as a route for the transportation of the products of the Saskatchewan Valley to Europe, settlements would of necessity spring up on the Nelson or Hayes Rivers, and their confluents, and probably on the western shores of the Bay also; if, too, the expectations that the eastern coasts contain large mineral deposits be realized, a demand for the products of Ontario manufactures would naturally present itself in that quarter also. It is true that, as we shall presently see, some eminently respectable authorities are sanguine, that the navigation of the Bay and Straits may be effected for a period in the course of the year, sufficient to make it profitable, and to justify very bold measures for connecting the Saskatchewan and Lake Winnipeg, with Hudson's Bay by means more expeditious than those now existing. The progress of modern science has done so much to remove old prejudices and to overcome presumed impossibilities that it would be wrong hastily to decide adversely to these views. But certainly the evidence so far before

* Report of Committee, p. 238.

us does not go to prove, by any means, that the bulk of the cereal products of the West could be forwarded to York Factory in time to admit of their being shipped to Liverpool during the open season. That this might be done on a small scale and for, perhaps, several successive years, is likely, but it is only by attracting shipping in the ordinary course of commerce, and that, too, in considerable numbers, that a trade, suited to the exigencies of those engaged in it, can be carried on. The advent of an early winter and the consequent detention or dismissal without freights, of a fleet of merchant vessels, would be ruinous in its effects, and, in all probability discourage such ventures for many a year to come. On the other hand, if, in the Hudson's Bay region, there are substantial foundations for local enterprise, it may find a safe and uninterrupted outlet by way of the Canadian lakes or St. Lawrence, to either the American or European market; and meantime the possibility of using the mouth of the Nelson River as an ocean port may be experimentally tested for a series of years with the certainty that, if the experiment be successful commerce will not be long in securing whatever advantages it has to offer.

The Nelson Valley Route.

Although the Nelson River has been the highway of traffic and used as the means of communication between Hudson's Bay and the interior for well nigh two hundred years, it is to day as little known to the people of this continent generally or of Great Britain as was, till recently, the great river the travels of Henry M. Stanley have rendered so famous. But, with the growth of a new power in British North America, and the rapid progress of colonization in the North-west, it is all but certain that the Nelson will ere long become as familiar to Canadians, at all events, as is to-day the Red River or the Assiniboine. When it is recollected that, while Lake Winnipeg is 2500 miles from the seaboard of the Gulf of St. Lawrence, and lies exactly in the centre of the American continent, under the 57th parallel, its northern extremity is only 380 miles from the tide waters of Hudson's Bay, the inducements to bring the interests of the North-west into closer relations with this comparatively contiguous ocean port are very great indeed. The Nelson and Hayes Rivers both flow from the westward, and, after a considerable divergence of route, enter Hudson's Bay nearly together. It is at the mouth of the Hayes River that York Factory, the chief trading post of the Company on Hudson's Bay, is situated, in latitude 57 deg. 10 m. north. It is about 650 miles in a direct line north-west from Moose Factory overland; by sea, 750 miles. Prince of Wales Fort, at the mouth of the Churchill, is 150 miles further to the north-west. The Nelson is the only outlet of the waters of the Lake Winnipeg Basin, including the North and South Saskatchewan. Its fall, in its whole course of nearly 380 miles, is trifling, not exceeding twenty inches to the mile. While, therefore, the voyager proceeding eastward with his produce has the benefit of a "down grade," his return trip is not so laborious as

in the case of many of the river highways of commerce. The Nelson River proper is less frequented than the Hayes and the chain of rivers with which it is connected. The reason assigned by the Hudson's Bay Company for preferring the Hayes for their batteaux is, that there exists danger in "tracking" in the Nelson, from the large blocks of ice hanging from its precipitous banks. The Indians, too, choose the Hayes, because of the accessibility of the Factory at its mouth, which, in their light canoes, it would at times be difficult to reach from the Nelson. The following is the route, with distances marked, as furnished by the surveyor of the Hudson's Bay Company and referred to by Professor Hind, in his evidence given before the Immigration and Colonisation Committee at Ottawa last session:*

	Miles.
York Factory	0
Hayes River	52
Steel River	27
Hill River to first fall	32
Fall to upper part of river	30
Lac de la Savanne	7
Jack River (Riviere aux Brochets)	10
Knee Lake	47
Front River	13
Holy Lake	30
Small brooks and lakes on a great plateau	50
Brook with Beaver Dam (Each-away Man's Brook)	28
Hare Lake	7
Sea River (part of the Nelson)	35
Play Green Lake (Norway House)	14
Total Geographical miles	382

In the year 1846 a body of troops, under the command of Lieut.-Col. Crofton, were sent by the York Factory and Lake Winnipeg route, to Fort Garry, a distance of 700 miles. The troops consisted of a wing of the 6th Foot, a detachment of artillery and a detachment of Royal Engineers. The force numbered 383 persons, including 18 officers, 329 men, 17 women, and 19 children. With its equipment and four guns, it occupied thirty days in the trip, but the commander reached his destination in twenty-three days from York Factory. The journey was accomplished without accident, or, apparently, any difficulty, except those incidental to portaging. Lieut.-Col. Crofton, in his evidence before the Commons

* Report of Committee, p. 155.

Committee in 1857, produced a list of the portages made by him on the line of route. They are thirty-four in number, as below : [m]

Name of Portage.	Length in Paces.	Nature of Ground.
Rock Portage	48	Hard, dry, even.
Borrowicks	39	Rocky, swampy.
White Mud	43	Swampy.
Point of Rocks	61	Hard, rugged.
Brassa	482	Hard and uneven.
Lower Burntwood	476	Dry and even.
Morgans	266	Rocky, broken.
Upper Burntwood	59	Dry, rather uneven.
Rocky Ledge	63	Hard, rugged.
Mossy	503	Swampy and slippery.
Smoothrock	347	Hard, even.
First Portage	42	Swampy.
Second Portage	58	Swampy.
Devils' Portage	173	Hard. Difficult landing.
Ground Water Creek	51	Swampy.
Lower Creek	62	Swampy.
Long Water Creek	521	Swampy.
Second Water Creek	68	Swampy.
Upper Water Creek	53	Swampy.
Front Fall	49	Rocky, even.
Creek Fall	31	Rocky, swampy.
Knife Portage	59	Swampy.
Upper Portage	40	Swampy.
Lower Portage	38	Swampy.
Moore's	56	Swampy.
Crooked Spout	36	Rocky, swampy.
Upper Spout	42	Swampy.
Hill Portage	243	Rocky, rugged.
Upper Portage	57	Rocky, rugged.
Whitefall, Robinson's	1,760	Level, but slippery.
Painted Stone	16	Rocky, even.
First Dam	28	Hard, stony.
Second Dam	25	Hard, stony.
Sea River	63	Rocky, even.

The journey from Norway House to Fort Garry would, of course, be accomplished without obstruction by way of Lake Winnipeg and the Red River.

Climate.

In the Valley of the Nelson there is considerable cultivable land, nor is the climate one of extraordinary severity. That the seasons become milder and the winters shorter as the westerly course is taken is proved by many incidents on record. In Ellis' Voyage† it is mentioned that the ice in Hayes River, where his ships had wintered, gave way on the 16th of May, and, on the 5th of June, nineteen canoes, laden with furs, passed the vessels on their way to York Factory, a clear proof that the rivers westward had been open at least a fortnight or three

[m] Report of Committee, p. 181.

† Voyage to Hudson's Bay, 1746-7.

weeks previously. Hearne relates that in 1775,* he and his companions killed teal in the rivers they passed through from Cumberland House to York Fort, as late as the 20th October. This shows, not only that the birds in question defer their emigration until the end of October, but that navigation is also open up to, or past that date. In his evidence before the Immigration and Colonization Committee, Professor Hind stated as follows: †"The warm and moisture-laden winds from the Pacific moving north-easterly, deposit much of their moisture on the western flanks of the Rocky Mountains. Rising over the summit of the ranges, they are deflected to the south by the combined influence of the earth's rotation and the pressure of the compensating cold winds from the north. The cold winds acquire their maximum influence on the 95th meridian, which passes through the Lake of the Woods. Farther to the eastward, the isothermals are pressed back by the warm winds from the Gulf of Mexico, which push them to the north-eastward. In both cases the rotation of the earth is a leading cause in determining the course of the fertile zones. These, be it observed, are broad generalizations, subject to numerous local modifications, which affect local climates. The Valley of the Nelson appears to exhibit one of these local modifications, arising from its low level above the sea. Until within thirty miles of Port Nelson the canoe route down Hayes River shows little difference in point of climate from the canoe route of Lake Superior, where it crosses the height of land. The cause, however, in this case is, in part, assignable to the difference in elevation above the sea level, which is upwards of eleven hundred feet; this would theoretically produce a difference in temperature equal to more than three degrees of Fahrenheit. All accounts agree in stating that the climate of the valley of the Nelson River changes greatly as soon as a distance of some five and twenty or thirty miles from the sea is reached. The cold winds from Hudson's Bay lower the temperature in the vicinity of the sea-board to a great extent, but, thirty miles inland, their influence is greatly modified."

Joseph La France, in his narrative,‡ states that "within four or five leagues of the sea at York Fort the cold continued, and there was ice in the river in June, when, above that, they had a fine spring, all the trees in bloom, and very warm weather up to the Great Fork, in the beginning of June." According to Ballantyne,§ vegetation in the valley of Hayes River, thirty miles from its mouth, on the 23rd of June was found to be in an advanced state, the trees being covered with foliage and, on the 25th of June, he describes the spring to have long begun on Hill River, and "along its gently sloping banks the country was teeming with vegetable and animal life." This is on the canoe route from York Factory to Norway House and a little to the south of the valley

* Journey to the Northern Ocean.

† Report of Committee, 1878, p. 153.

‡ Appendix to House of Commons (Eng.) Committee, 1749.

§ Ballantyne's Hudson Bay.

of Nelson River proper. Oxford House is situated on Holy Lake, and Lieut. Chappel remarks,* that owing to the richness of the soil, and the geniality of the climate, this place produces a number of excellent vegetables. Dr. King who was attached to Captain Back's journey to the Arctic Ocean,† states that at the commencement of Hill River, halfway between York Factory and Norway House, the argillaceous cliffs are seen rising in some places 100 feet above the water level, capped with hills of at least twice that height; and at some parts of the stream, where it is expanded to a breadth of several miles, innumerable islands appear, stretching in long vistas, and well-wooded, producing scenery of extreme beauty. The occurrence of such deep deposits of drift clay in this valley is of great importance. The same traveller states, that Steel River—the name which Hill River takes after flowing fifty-seven miles—serpentines through a well-wooded valley, presenting at every turn much beautiful scenery, but nothing to equal what is seen along the shores of the former stream. The mouth of Steel River is forty-eight miles from the sea by the winding course of Hayes River into which it falls. Professor Hind, in the course of his evidence, remarked:‡ "The brigade of the Hudson's Bay Company's boats for the interior, usually leaves York Factory about the end of May, which shows that the rivers are open even in the cold border land within twenty miles of Hudson's Bay. We must bear in mind that ice is often found in the Lakes near the water-shed, west of Lake Superior, about the middle of May, and Lake Winnipeg is sometimes impassable at its northern extremity during the first week of June. From these comparisons, it will be seen that the climate of the Nelson River valley is of an exceptionally favourable character away from the coast line. It can scarcely excite surprise that there should be a large tract with a good climate, and great depth of drift clays in the vicinity of the valley of the Nelson River, for it is the lowest portion of the whole basin of Lake Winnipeg, and is constantly under the influence of the drainage waters from three hundred thousand square miles of land, lying altogether to the south of the narrow depression, not, perhaps, more than forty miles broad, through which the Nelson River finds its way. The great thickness of drift clays upon several of the rivers, noticed by different observers, on the canoe route from York Factory to Norway House, must necessarily produce a good soil, and the two conditions of a good soil and a humid climate concur to sustain an exceptionally fine forest growth for this region, and an abundance of animal life." With the information we have at command respecting the Nelson River valley, we may safely come to the conclusion, that, if not a region to which large numbers of persons are likely to resort exclusively by reason of special attractions for the agriculturist, it is one that would furnish abundant supplies for communities settled on

* Narrative of a voyage to Hudson's Bay, 1817.

† Narrative of a journey to the shores of the Arctic Ocean 1833-4-5, by Richard King, M. R. C. S.

‡ Report of I. & C. Committee, Appendix to Journals, Canada, 1878, p. 154.

the shores of Hudson's Bay, or for any shipping that might resort to its western ports.

Soil and Climate at York and Churchill.

With the fact just referred to in view, the precise conditions of soil and climate at York Factory, or the mouth of the Churchill, are of secondary importance. On this point the statements are a little contradictory. Dr. Rae, in his evidence before the Commons Committee in 1857, was asked* "how the climate at York Factory compared with that of the Orkneys." His answer was to the effect, that the character of the summers was about the same in both cases, but that the winters were longer, extending over seven or eight months, beginning in November and not actually ending before June. Sir George Simpson also spoke † unfavourably of the productiveness of the soil around York, owing to the presence of ice in the ground for most of the year. Mr. A. Isbister,‡ on the other hand, pointed out that frost in the subsoil does not necessarily prevent the growth of vegetation, if the thaw extends to a reasonable depth. In Siberia, he remarked, which is in the same latitude as the northern part of the Hudson's Bay territories, there are large crops of wheat every year. With the process of clearing the country the sun's rays would penetrate deeper and the thaw be more complete. The testimony of Sir John Richardson§ and Mr. George Gladman was rather unfavourable than otherwise to the cultivable capacity of the soil at York Factory. Mr. Joseph Robson, six years resident in Hudson's Bay, already referred to, while admitting the presence of frost at from three to four feet depth in the ground, alleged that the surface of the ground was free from ice from the latter end of May to the end of August; that he had suffered more from cold in England than at York Factory, the clothing at the latter place being adapted to the climate: and that the soil bore roots such as carrots, radishes and turnips, as well as many other kinds of vegetables. In his opinion, if the land was properly cultivated it would support numbers of people. The want of proper cultivation, including drainage, has, no doubt, a good deal to do with the rather, on the whole, unfavourable picture given of the agricultural or horticultural capabilities of the neighbourhood around York Factory.

Robson, who appears to have been a very intelligent persons, says:¶ "The soil about York Fort is much better than at Churchill. Most kinds of garden stuff grow here to perfection, particularly peas and beans. I have seen a small pea growing without any culture; and am of opinion that barley would flourish here. Gooseberries and black currants are found in the woods, growing upon such bushes as in England. Up the river, are patches of very good

* Report Hudson's Bay Committee, 1857, p. 31.
† Report of Committee of Hudson's Bay Company, 1857, p. 46.
‡ Hudson's Bay Committee, 1857, p. 136.
§ Hudson's Bay Committee, 1857.
¶ Six years' residence, p. 43.

ground; and battones under banks so defended from the north and north-west winds, that there is a fine thaw below when the top is freezing; here, whole families might procure a comfortable subsistence, if they were as industrious as they are in their own country. Upon Hayes river, fifteen miles from the fort, is such a bank as I have just mentioned, near which I pitched my tent. After paling in some ground for a coney-warren, and for oxen, sheep, goats, &c., I should expect by no more labour than would be proper for my health, to procure a desirable livelihood; not at all doubting of my being able to raise peas and beans, barley and, probably, other kinds of grain. The island on which York Factory stands is more capable of improvement than can be imagined in such a latitude, and so near the Bay. It is narrow, twenty miles up from the Bay, so that drains might be cut to very useful purpose. I cut a drain near the Fort, to dry a piece of ground for a battery of four cannon which afterwards wore quite a new face; the snow did not lie upon it so long as before and grain flourished with new vigour. I observed also, that, before the snow was thoroughly thawed, several vegetables were springing up beneath it; and by the time it had left only a very thin shell of ice, these vegetables were grown up three or four inches." Some other experiments by Mr. Robson confirmed his opinion that, with draining, a good soil for garden cultivation could be obtained and a considerable quantity of produce raised. As professor Hind reminded the Committee at Ottawa last session,* in all these northern latitudes the duration of light as well as the intensity of the sun's rays must be taken into account as a compensating influence in relation to vegetable growth. He submitted to the Committee the following table giving the relative intensity of the sun and the length of day in latitudes 40°, 50° and 60° respectively, and therefore embracing the whole area of territory referred to in this paper.†

TABLE Showing the Sun's Relative Intensity, and the Length of the Day in Latitudes 40°, 50° and 60°.

	Latitude 40°.		Latitude 50°.		Latitude 60°.	
	Sun's Intensity.	Length of Day.	Sun's Intensity.	Length of Day.	Sun's Intensity.	Length of Day.
		H. M.		H. M.		H. M.
May 1	80	13.46	77	14.30	70	15.44
do 16	85	14.16	83	15.16	79	16.56
do 31	88	14.38	87	15.50	85	17.56
June 15	90	14.50	89	16.08	88	18.28
July 1	90	14.46	89	16.04	88	18.18
do 16	87	14.34	86	15.42	84	17.42
do 31	84	14.08	81	15.04	77	16.38
Aug. 15	79	13.36	74	14.18	68	15.24
do 30	72	13.02	65	13.28	57	14.08
Sept. 14	65	12.22	58	12.32	46	12.46
do 29	57	11.44	47	11.36	36	11.26

* Report of I. & C. Committee, p. 152.

† Report of I. & C. Committee, p. 153.

Commenting on this table the Professor says: "It will be seen that in latitude 40° the sun's intensity is represented by 88 on May 31st, the day being 14 hours 38 minutes long. In latitude 50° the sun's relative intensity of light and heat on the same day is 87, but the day is 15 hours and 50 minutes long. In latitude 60° which is some degrees north of Peace River, (and nearly three degrees north of York Factory) the sun's intensity on the 31st of May is represented by 85, but the day is 17 hours 56 minutes long. During the fortnight from June 15th to July 1st the sun's intensity closely approximates in latitudes 40°, 50° and 60°; but the day is widely different in length, and the heat and light have a greater time to act on vegetation under the more northern meridians. Thus from June 15th to July 1st the sun's intensity diminishes from 90 to 88 between latitude 40° and latitude 60°; the day, however, on July 1st is 14 hours 46 minutes long in lat. 40°; 16 hours 4 minutes long in latitude 50°; and 18 hours 18 minutes long in latitude 60°."

The Hudson's Bay Post at the mouth of the Churchill River, 59° is subject substantially to the conditions of light, heat and length of day, described in the last column of the foregoing table. It is spoken of by old travellers as being more favourably situated than the other factories for trade, in consequence of its greater distance from the French (in Canada), who interfered greatly with the operations of the incorporated monopolists of the fur trade. The Churchill is described by Hobbs as "a noble river, navigable for 150 leagues, and, after passing the Falls navigable to far distant countries." Its sources are near the height of land in long. 110° W., whence by a very devious route it winds its way east and north-east to Hudson's Bay, at one point approaching very near to the confluents of the Nelson, and the waters of Lake Winnipeg. The climate at the Fort is not by any means intolerable. Captain Middleton wintered there with his ship in 1741. His diary,* shows that snow fell first on the 1st of September, after which the weather was unsettled, the river being frozen over so as to admit of crossing upon the ice, on the 9th of October. On the 1st of June the ice gave way in the channel and drove down to sea, but was still fast on the flats. Partridges in large numbers were killed during the whole winter, wolves, foxes and other animals also being seen near the Fort. At Churchill, as well as at York and the more southern posts, the wild goose is one of the most regular sources of subsistence, thousands of these birds being killed and preserved for winter food. All kinds of wild fowl abound in these latitudes to quite as great an extent as at Moose or Albany. There is a good supply of wood in the vicinity of Churchill ,and, as at other points, any quantity of hay growing in the marshes, and furnishing food for cattle. Seal River lies still further to the northward than Churchill, and, according to Hobbs, the musk-ox is or was in his time met with between the two rivers.

* Hobbs, p. 14.

Navigation of Hudson's Bay.

In regard to the navigation of Hudson's Bay, Mr. Walter Dickson, the correspondent of the Toronto *Globe*, previously mentioned, expresses himself in the following terms:—'This inland sea of Hudson's Bay—which might well be termed the Mediterranean of Canada—is upwards of twelve hundred miles in length (including, of course, James Bay) with a width varying from ninety to three (five) hundred miles and upwards, with several hundreds of islands studded over its surface, some of them of such extent as to have large lakes and rivers on them, giving altogether a sea-board of upwards of two thousand miles (more than that of the United Kingdom of Great Britain), and so easy of access that an ordinary screw steamer might start from Quebec and reach any point on its coast in considerably less than two weeks. That so little information concerning this great inland sea of the Dominion has been given to the world, is simply owing to the fact, that, for upwards of two centuries, this sea and the land surrounding were virtually the property of the great monopoly the Hudson's Bay Company, who made it their study, as it was to their interest to keep Hudson's Bay, like all the rest of the territory over which they held sway, as completely unknown to the outer world as possible * * * * The sea of Hudson's Bay itself is so little known that there are no charts of it in existence excepting those made by the Hudson's Bay Company, and they are only useful as guides to the depots at certain points on the east and west coasts of the Bay."

Professor Hind states * that "the most recent Admiralty map of Hudson's Straits exhibits a want of full information regarding the coast lines on both sides of the Straits." A chart published in 1853 and corrected up to 1872 retains errors perceivable in those constructed in Queen Elizabeth's reign. The practical tests of the navigation of the Bay have been confined to slow sailing merchant ships sometimes convoyed by men-of-war, not less worthy the appellation of tubs, as compared with the vessels of the present time, sent out on any service supposed to require special qualifications in the direction of speed, strength and security. Yet, it is alleged, that, since their original occupation of the coasts of the Bay two centuries ago only two of the Hudson's Bay Companys own ships have been lost, and that through culpable recklessness. It is quite probable, however, that the navigation of Hudson's Bay will soon be robbed of some of its terrors, and that what has been regarded as hazardous or impossible will be found, by the aid of the new and powerful agencies modern discovery has provided, both safe and practicable. The contrast in other respects between the experience of twenty years since and that of to-day is rather amusingly exemplified by a perusal of the evidence of Captain Herd one of the witnesses before the committee of 1857.† "I do not think," said the worthy captain,

* Report I. and C. Committee, 1878, p. 136.

† Report Hudson's Bay Committee, 1857, p. 256.

"that a steamer would do at all among ice, to force a passage. * * * If I were asked my experience I would prefer a sailing ship among ice to a steamer." He would have been loth to believe that, in a very few years, the whole conditions of the great sealing industry would be changed by the adoption of steamers in place of sailing vessels, and that the hardy seal hunters, so far from avoiding, would actually seek the very ice that he was wont to encounter in his sailing ship, and enter it as fearlessly as he steered his craft in open water. With stout screw steamers, protected as are these used in the Newfoundland seal fisheries, and furnished with the magneto-electric light, there is very little loose ice that need preclude a passage where an end is to be gained by attempting it.

Hudson's Straits.

Hudson's Straits, the only outlet of the Bay, are at its north-eastern extremity. They are about 500 miles in length and vary in width from 45 miles at the entrance between Resolution Island on the north and Britton Islands on the south shore to three times that extent in other places. The Strait, like the Bay, contains numerous islands affording excellent shelter and harbourage. The Hudson's Bay ships, according to a table compiled by Lieut. Chappell, R. N. in 1814* had usually arrived abreast of Charles Island on the south side and near the western entrance of the Straits, at periods varying from the last week in July to the beginning of September. Captain Herd, before the Committee in 1857, stated that he usually arrived at York Factory about the 10th or 15th of August, and left again from the 15th to the 25th of September.† The time occupied in going through the Straits on the westward trip in July and returning in August or September in sailing vessels, differs greatly, varying from three weeks to a month in the former case and from three to five days in the latter, the Straits in August or September being free of ice. Professor Hind's theory ‡ is that Hudson's Straits are never frozen over and that the ice brought down in July is not even from Hudson's Bay but from a more northerly region, whence it reaches Hudson's Straits through Fox Channel. The heavy tides in the Straits are strongly against the notion of solid ice being formed there. There is very good authority for believing that the ice formed in Hudson's Bay, does not leave the Bay at all, but that its dissolution takes place in the Bay itself. In the southern parts of Hudson's Bay and in James Bay nearly the whole surface may be frozen over. But the water there is shallow, and, in James Bay, from causes already stated, contains very little salt. On the contrary, in the upper portions of Hudson's Bay the main body of the water, it is believed, does not freeze at all. Hearne, referring to a fact in ornithology, mentioned by Pennant,§ alludes quite

* Narrative of a voyage to Hudson's Bay, 1817.

† Report Hudson's Bay Committee, 1857, p. 255.

‡ Report of I. and C. Committee, 1878.

§ Journey to the Northern Ocean, p. 429.

incidentally to the ice being frozen "several miles from the shore," the implication being that the ice was limited in its extent to a distance from the shore which the term "several miles" would be popularly supposed to represent. Another fact, too, confirmatory of the belief that Hudson's Bay is not the source of the ice-pack that crushes through Hudson's Straits, is, that, after passing Charles Island, near the western entrance of the Straits, ice is seldom seen, except it is met with floating in the centre of the Bay. The proposition, however, that the passage of the Straits cannot be safely made before the middle of July has been very generally endorsed by navigators of great experience, including Sir Edward Parry. But the view held to-day by Professor Hind and other more recent authorities, namely, that an entrance could be effected and the Bay reached in June, is not a new one.

Robson, in his book already frequently referred to,* and which was published in 1752, advocated the passage being attempted in June. He says: "At York Fort and Churchill River I have observed that the ice did not break off close at the shore, but gradually; the first field leaving the shore-ice two or three miles broad, the second less, and so on until it was cleared away. These several fields of ice drive through the Straits; but as they go off at intervals, one field may be driven through before the next enters from the Bay; consequently the Strait is sometimes pretty clear of ice. As the Straits, then, *are never frozen over*, nor always unnavigable, even when there is much ice in the Bay, I imagine that a safe passage may often be made about the beginning of June; for, as the ice enters the Straits at intervals, according as it breaks off, and as the wind and currents drive it out of the Bay, so the wind may keep the ice back at this season, as at any other. Besides, the ice at the bottom (southern end) of the Bay, and the north and west ice, will not have had time to reach the Straits, but after June all the Bay ice commonly reaches it. The beginning of June, therefore, seems to be the likeliest time in which to expect a free passage." Robson's idea as to the ice being from the Bay was probably incorrect, but his information as to the ice-movements in the Straits may nevertheless have been perfectly sound. Lieutenant Chappell, R. N.,† was also of opinion that the Straits might be entered in June. The danger, if any exists, would be rather in the entrance of the Straits than in their subsequent navigation. The ice at the mouth of the Straits is exposed to all the force of the Atlantic, but, once in the Straits, a vessel, if warned by signals of danger, could easily take refuge in one of the numerous places of shelter on the coast or one of the Islands in the Straits. Professor Hind‡ suggests the establishment of signal stations, from which mariners could be advised as to the drift of the ice as affected by the winds, and thus usually secure a more or less open channel. In fact, if the iron-protected screw steamer, thus aided and guided, did not al-

* Six Years' Residence in Hudson's Bay, p. 58.

† Narrative of a Voyage to Hudson's Bay.

‡ Report of Immigration and Colonization Committee, 1878.

ways succeed in overcoming the obstructions arising from this flow-ice in the Straits, the difficulties it presents would be reduced to their smallest proportions. It is understood that Professor Hind's theory has the full endorsation of Professor Bell, whose next issued report of his most recent explorations will be looked for with great interest.

Hudson's Bay Fisheries, Minerals, and Commerce.

Calculations as to permanent trade and intercourse cannot, of course, be based on exceptional experiences. It is, however, a fact attested by recent visitors to the coasts of Hudson's Bay and James Bay, that for the past two seasons there has been little or no ice in either, while Hudson's Straits have also been very clear, and navigation quite unimpeded. To what this state of things may be attributable it is difficult to say, and how long it may continue, is of course quite uncertain. But it is interesting as affording one more proof that Hudson's Bay is not the ice-bound sea it was once endeavoured to make the world believe.

The accessibility or otherwise of Hudson's Bay and Straits for several months in the year, will have an important influence on the development of its fisheries, which have yet received but little attention. Ungarva Bay, just within the eastern entrance of Hudson's Straits, has already an excellent reputation as the field of an extensive seal and whale fishery. In an interesting little *brochure* recently issued by Lieut.-Colonel Dennis, Deputy-Minister of the Interior,* a table is given from American official sources, showing the returns of American whaling vessels fishing in Hudson's Bay from the year 1861 to 1876. The favourite resort of these vessels is Marble Island, in the north-east part of Hudson's Bay. Their numbers varied from one to fifteen in a season, the total number in the fifteen years being forty-nine. Another return of the value of the catch for the eleven years—1861 to 1874, omitting 1869 and 1871—was $1,371,023. Seals and porpoises, among the larger denizens of the ocean, are also to be found in the waters of the Bay or Straits. On the north-western shore of the bay is a very prolific salmon fishery, capable, apparently, of forming a most important local industry. Although there is no evidence published of cod being captured alive, their remains have been frequently found on the shore, and the resort to the Bay of enormous shoals of caplin—the chief food of the cod—is regarded as one of the best proofs that the cod are not far behind them.

With the fur-trade, which still finds, at the mouths of the great rivers that fall into Hudson's Bay, its principal depots; with the mineral wealth that will inevitably, at no distant day, be extracted from the coasts of these hitherto almost unexplored waters; from the fisheries that may be stimulated as the facili-

* Navigation of Hudson's Bay. Ottawa, 1878.

ties for navigation become better understood, and from the fertile soil on the banks of the great western rivers, may accrue results most important to the people of Canada, and in these it is desirable that the Province of Ontario, looking, as it does, to this vast northern sea as one of its boundaries, should as early as possible participate. The question of establishing improved communications between the more populous sections of Ontario and its north-western territory, especially with the settlements on Lake Superior, will undoubtedly ere long engage fuller attention. The practicability of constructing a railway to Sault Ste. Marie from the most advanced point of existing railway communications, has long since been demonstrated. The late Mr. Herrick, and other surveyors, have furnished information pointing to the comparative ease by which connections in winter, by means of a stage road, might be maintained with Thunder Bay, the inhabitants of which region are now practically isolated for six months in the year. Lake Superior, on the other hand, never freezes over, nor is it a stormy water, and even Thunder Bay is open till so late a period that, with vessels properly protected in the bows it would be possible to maintain traffic, via the Sault, for nine months out of the twelve. The Sault certainly appears to be the point to which railway enterprise will have to be directed as providing a way to intercourse with North-western Ontario and the vast territories lying both to the north and west of the boundaries of this Province.

REPORT

OF THE

Board of the School of Practical Science.

Presented to the Legislative Assembly, by command of His Honou the Lieutenant-Governor.

ARTHUR S. HARDY,
Secretary.

Provincial Secretary's Office,
Toronto, 16th January, 1879.

To His Honour the Honourable D. A. Macdonald, Lieutenant-Governor of the Province of Ontario.

May it Please Your Honour:

I herewith beg to present the Report of the Board of the School of Practical Science, which was opened in the month of September, 1878; also the Prospectus and Regulations of the School, and Syllabus of course of Instruction therein.

I have the honour to be,
Your Honour's obedient servant,

Adam Crooks,
Minister of Education.

Education Department (Ont.),
Toronto, 13th January, 1879.

To the Honourable the Minister of Education:

The Board of the School of Practical Science has the honour to report as follows:—

"The First Term of the present Session opened on the Third of October, and although the fittings of the Building had hardly been completed, the Lectures and Courses of Practical Instruction were begun in most of the Departments.

"Seven Regular Students* have entered upon the Three Years' Course for the Diploma in Engineering. The Board thinks this reason for congratulation, in considera-

* *Regular Students* are those who are taking the Three Years' Course for the Diploma of the School. *Occasional Students* are those who merely desire instruction in one or more detached Subjects.

tion of the facts that the Chair of Engineering was not filled till the end of September, and that the Prospectus containing a Synopsis of the Instruction offered, appeared too late to leave sufficient time for the necessary preparations for entrance.

"Of these Students several have been previously engaged in practical Engineering work, and have entered the School with the object of gaining a more scientific and complete knowledge of their profession, as well as of obtaining a practical acquaintance with allied subjects.

"In addition to practical instruction in Office Work, Drawing, and the Graphic Solution of Mechanical Problems, Lectures were given on the Principles of Surveying, Projections, and Engineering Statics. The Apparatus procured during the present year has been ordered with a view to the requirements of the First Year's Course, and of the present number of Students.

"A reference to the accompanying Prospectus will show the additional preliminary subjects which it has been thought desirable for the Regular Students of the First Year to take up.

"The terminal Examinations which have been held in these, as well as in the strictly professional subjects, have indicated gratifying progress.

"No Regular Students have as yet entered in the Departments of Chemistry or Assaying and Mining Geology. Indeed the fittings of the Assay Laboratory have only recently been completed, and the necessary appliances have just arrived. Professor Chapman has, however, given a good deal of information on Canadian Mineral Deposits to various applicants, and the Laboratories have now been put in order for practical work during the ensuing term. Instruction will then be given in Blowpipe Analysis, Determinative Mineralogy, Assaying and Mining Geology.

"From the appended Circular it will be seen that the Physical Laboratory will likewise shortly be in working order.

"Altogether twenty-two Occasional Students have taken advantage of the Courses open to them. Six of these have entered in the Department of Chemistry, and sixteen in the Department of Biology. Several of the former and most of the latter are Medical Students from the two Medical Schools of the City. The distance of the School of Science from these, interferes with the usefulness of the Institution in this direction. Should it be deemed desirable, however, it may be possible in the future to arrange special Courses in the early summer for the accommodation of this class of Occasional Students.

"The Board begs to append the Prospectus of the School published in September, which includes a Synopsis of the Courses of Instruction there arranged. This must be regarded as provisional, as the Faculty was not completed when it was issued. It is proposed to publish a new edition of this, early in the Spring, so that intending Applicants for next Session may have full information in plenty of time. In the meantime, certain necessary changes have been embodied in a Circular which is also appended."

R. Ramsay Wright,
Acting-Secretary,
School of Practical Science.

Toronto, *26th December, 1878.*

SPECIAL REPORT

UPON THE

Operations of the Depository Branch,

OF THE

EDUCATION DEPARTMENT,

FOR THE YEARS 1876 AND 1877.

Presented to the Legislative Assembly by command of His Honour the Lieutenant-Governor.

ARTHUR S. HARDY,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
Toronto, 23rd January, 1879.

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit the accompanying Special Report upon the operations of the Depository Branch of this Department, for the years 1876 and 1877.

I have the honour to be,
Your Honour's obedient servant,
ADAM CROOKS,
Minister of Education.

Education Department (Ont),
Toronto, 20th January, 1879.

TORONTO, 30th, September 1878.

SIR,—I have the honour to transmit to you the accompanying Report on the operations of the Depository in connection with this Department for the years 1876 and 1877.

This Report was prepared by my directions in part by the late Mr. James Brown, jr., and after his lamented death by Mr. Wilkinson. It is in continuation of the financial report made by Mr. Brown on the operations of the Depository from 1850 to 1875 inclusive.

The following is a summary of the financial operations of the Depository from 1850 to the end of 1877 :—

1. Total Legislative grants expended by the Depository for books, maps, apparatus, freight, salaries, and all other expenses, 1850–1877, inclusive.....		$933,998
2. Total value of books, maps and apparatus despatched from the Depository, 1850–1877, inclusive.....		922,300
Difference.....		$11,698
3. Net value of stock in hand on the 1st January, 1878.....	$85,620	
Less sent to Philadelphia and Paris exhibitions not returned.....	3,748	
		$81,872
4. Value of articles sent out from the Depository in 1877.....	$58,398	
Ditto by booksellers.....	5,858	
		$64,256

I have the honour to be,
Sir,
Your obedient servant,

J. George Hodgins,
Deputy Minister of Education.

The Honourable Adam Crooks, LL.D.,
Minister of Education,
Toronto.

SCHEDULE.

GENERAL SUMMARY of the operations of the Depository Branch of the Education Department, with full Profit and Loss Account for the term 1850 to 1877 inclusive.

DR.			CR.		
1850 to 1875	To total expenditure during the term, as per Schedule, page 3 of Mr. Jas. Brown's, Jr. Report on the Depository, published in 1877. Total expenditure during the term	$811 523 72	1850 to 1875.	By sales and deliveries on Legislative Grant, as per Schedule page 3 of Jas. Brown's, Jr., Report on the Depository, published in 1877. Total sales during the term	$803,067 86
1876.	To total expenditure as per Statement No. 3,	48,816 78	1876.	By cash sales as per Statement No. 3	36,315 15
	To total cost of management per same	8,304 14		By deliveries on Legislative Grant	24,359 66
1877.	To total expenditure as per Statement No. 4	57,044 70	1877.	By cash sales as per Statement No. 4	35,003 10
	To total cost of management per same	8,307 83		By deliveries on Legislative Grant	23,433 59
	Total expenditure during the term	$933,997 17			
	Grand total profits made during the term 1850-1877	$73,803 16		Stock on hand at the close of the term, as per Inventories taken at cost, deducting value of articles sent to Philadelphia and Paris Exhibitions ($3,748.18)	85,620 97
		$1,007,800 33			$1,007,800 33

STATEMENT No. 1.

General Summary of the Annual Receipts and Expenditures of the Depository Branch of the Education Department, together with the Annual Sales and Deliveries of Books, Maps, &c., and cost of management for the whole term, 1876 and 1877, (being in continuation of Statement No. 3 of Jas. Brown's, Jr., Report, published in 1877.)

Years.	Receipts from the Treasury.	Expenditure by the Depository.	Cash receipts on sales.	Deposits to the credit of the Treasury.	Sales and Deliveries of Books, Maps, &c.				Cost of Management.		
					Sold at half price.	Sold subject to 100 per cent. grant.	Sold at net prices.	Gross am'ts sold.	Amount of Salaries.	Amount of contingencies.	Total Amounts.
1876	$58,860 47	$57,120 92 and 1,739 55	$36,315 15	$36,315 15	$24,359 66	$24,359 66	$11,955 49	$60,674 81	$5,077 50	$3,226 64	$8,304 14
1877	68,294 58	65,352 53 and 2,942 05	35,003 10	35,003 10	23,433 59	23,433 59	11,569 51	58,436 69	5,105 00	3,202 83	8,307 83
Totals	127,155 05	$127,155 05	$71,318 25	$71,318 25	$47,793 25	$47,793 25	$23,524 90	$119,111 50	$10,182 50	$6,429 47	$16,611 97

STATEMENT No. 2.

GENERAL SUMMARY of the operations of the Depository Branch of the Education Department during the years 1876 and 1877, with closing profit and loss account.

DR.

1876, Jan'y 1st.	To stock on hand this day as follows :—				
	Text books at cost value			$9,461 50	
	Maps, Apparatus, &c., ditto			38,175 92	
	Libraries and Prize Stock, ditto			45,790 49	
	Total			$93,427 91	
	Less payments included in subsequent expenditure			$13,918 50	
	Net cost value of stock at date				$79,509 41
	To expenditure during the following years :—				
	For Purchases.	For Charges.	For Management.	Gross Annual Outlay.	
1876, Dec. 31st.	$45,447 53	$3,369 25	$8,304 14	$57,118 92	
1877, Dec. 31st.	54,824 49	2,220 21	8,307 83	65,352 53	
Total expend'tre	$100,272 02		$16, 11 97		$122473 45
Dec. 31, 1877.	To net profit on the operations of the Depository as exhibited in the annual Statements, viz : net profit on this year's operations (1876)				
1876.				$1,308 52	
1877.	To net profit on the operations of the Depository as exhibited in the annual Statements, viz : net profit on this year's operations (1877)			$1,441 09	
	Total net profit during the term (1876-7)				$2,749 61
					$204732 47

CR.

1877, Dec. 31.	By proceeds of sales effected during the following years, under the following classification :—				
	Cash received on sales and deposited to the credit of the Treasury.	Legislative apportionment of 100 per cent. on sales to Trustees.	Gross Annual sales at Catalogue prices.		
1876.	$36,315 15	$24,359 66	$60,674 81		
1877.	35,003 10	23,433 59	58,436 69		
Totals.	$71,318 25	$47,793 25	$119,111 50		
	Gross amount of sales for the term				$119111 50
1877, Dec. 31.	By stock on hand at the close of the term as per inventories taken at cash values :—				
	Text Books		$9,815 49		
	Maps, apparatus, &c., including articles sent to Philadelphia and Paris Exhibitions		43,100 30		
	Libraries and Prizes		43,441 15		
	Total cash value of stock			$96,356 94	
	Deduct payments subsequently made and included in expenditure		$6,987 79		
	Articles sent to Philadelphia and Paris Exhibitions		3,748 18		
				$10,735 97	
	Net cash value of stock at date				$85,620 97
					$204732 47

STATEMENT No. 3.

ANNUAL STATEMENT of the operations of the Depository Branch of the Education Department with Profit and Loss Account for 1876.

DR.							CR.
1876. January 1.....	To stock on hand per inventories taken at date :—			December 31.	By cash received on sales during the year and deposited to the credit of the Treasury.....	$36,315 15	
	Text Books at cost.....	$9,461 50			By deliveries of books, maps, &c., on Legislative grant, at half price.....	24,359 66	
	Maps, Apparatus, &c.....	38,175 92					
	Libraries and Prizes.....	45,790 49					
		$93,427 91			Gross sales, computed at full prices.....		$60,674 81
	Less payments included in following expenditures	13,918 50					
	Net cash value of stock at date..	.....	$79,509 41		By stock on hand at close of the year, per inventories taken at cash values.....	$99,977 79	
					Less payments thereon to be made in 1877	22,713 75	
							$77,264 04
December 31..	To expenditure during the year as follows:						
	For Purchases	$45,447 53					
	For freight and other charges..... ...	3,369 25					
	Total.....	.....	$48,816 78				
	Gross outlay including stock	.....	$128,326 19				
	Apparent profit carried to Profit and Loss Account	.....	9,612 66				
			$137,938 85				$137,938 85
	PROFIT AND LOSS ACCOUNT.				CONTRA.		
	Paid Salaries	$5,077 50		December 31.	By gross profits on year's operations brought down	.....	$9,612 66
	Total amount of Office contingencies.....	3,226 64					
	Cost of management...	.....	$8,304 14				
	Net profit on year's operations, merged in stock....	.....	1,308 52				
	Total.....	.....	$9,612 66		Total.....	.....	$9,612 66

STATEMENT NO. 4.

ANNUAL STATEMENT of the operations of the Depository Branch of the Education Department, with Profit and Loss Acct. for 1877.

DR. CR.

1877.		$ cts.	$ cts.	1877.		$ cts.	$ cts.
January 1....	To stock on hand, per inventories taken at date:—			December 31.	By Cash received on sales during the year and deposited to credit of the Treasury.	35,003 10	
	Text Books at cost	8,676 80					
	Maps, Apparatus, &c.	36,711 09					
	Libraries and Prizes	54,589 90					
		99,977 79			By deliveries of books, maps, &c., on Legislative grant, at half price	23,433 59	
	Less payments included in following expenditures	22,713 75			Gross sales computed at full prices		58,436 69
	Net cash value of stock at date		77,264 04				
					By stock on hand at close of year, per inventories taken at cash value	96,356 94	
December 31..	To expenditures during the year, as follows:—						
	For Purchases	54,824 49			Less articles sent to Paris Exposition and Philadelphia Permanent Exhibition $3,748 18		
	For Freights and other charges	2,220 21					
	Total		57,044 70				
	Gross outlay, including stock		134,308 74		Less payments to be made in 1878 for stock received in 1877 6,987 79	10,735 97	
	Apparent profit carried to Profit and Loss Account		9,748 92		Gross cash value of stock at date		85,620 97
			144,057 66				144,057 66
	PROFIT AND LOSS ACCOUNT.				CONTRA.		
	Paid Salaries	5,105 00		December 31.	By gross profits on year's operations, brought down		9,748 92
	Total amount of Office Contingencies	3,202 83					
	Cost of management		8,307 83				
	Net profit on year's operations, merged in stock		1,441 09				
	Total		9,748 92		Total		9,748 92

STATEMENT No. 5.—EXPENDITURE DURING THE YEAR.

The Depository Branch of the Education Department in account with the Provincial Treasury.

DR. CR.

1876.		$ c.	$ c.	1876.		$ c.	$ c.
December 31.	To Payments by the Treasury made during the year, as per General Statement from the Treasury Office	50,556 33		December 31.	By Amount paid for Books, &c., imported	26,552 57	
					" Do. purchased in Montreal	640 74	
	" Payments for Salaries	5,077 50			" Do. do. in Toronto	18,254 22	45,447 53
	" Do. for Contingencies	3,226 64			" Do. paid for charges on goods from United States and England	995 90	
					" Amount from Toronto and Montreal	608 37	
					" Do. for Customs Duties	1,764 98	
					" Do. paid for Salaries	5,077 50	3,369 25
					" Do. paid for Office Contingencies	3,226 64	8,304 14
					" Do. allowed to School Trustees and charged to Depository Account for apportionment of 100 per cent. on purchases made by them from the trade		1,739 55
	Total		$58,860 47		Total		$58,860 47

STATEMENT NO. 6.

DR. CASH CURRENT ACCOUNT for the year 1876, of the Education Department of Ontario. CR.

1876.	CASH RECEIPTS.	On Acc't of Depository.	From Other Sources.	1876.	Amounts Deposited to the credit of the Treasurer.		
January	To amount received this month	$3,862 91	$2,067 33	January.	By daily deposits during the month	$6,413 00	
February.	" " "	3,598 51	2,584 58	February.	" "	5,697 33	
March.	" " "	4,218 02	2,621 18	March.	" "	6,839 85	
April.	" " "	2,282 35	1,638 24	April.	" "	3,919 99	
May & June.	" " "	5,607 68	2,595 84	May & June.	" "	8,385 30	
July.	" " "	1,428 59	1,011 15	July.	" "	2,257 96	
Aug. & Sept.	" " "	3,331 90	3,756 20	Aug. & Sept.	" "	7,158 00	
October.	" " "	3,128 72	2,417 24	October.	" "	5,476 00	
November.	" " "	3,513 60	1,623 30	November.	" "	5,160 30	
December.	" " "	5,342 87	1,175 44	December.	" "	6,497 92	
		36,315 15	21,490 50				$57,805 65
	The foregoing receipts for the year being classed under the following heads :—						
	Normal and Model Schools	8,454 00					
	Superannuated Teachers	12,767 25					
	Journal of Education	122 09					
	Office Contingencies	138 35					
	Refunds by over payment	8 81					
	Total as above		$21,490 50				
	Depository as above		36,315 15				
	Total		$57,805 65		Total		$57,805 65

STATEMENT NO. 7. EXPENDITURE DURING THE YEAR.

DR. THE DEPOSITORY BRANCH OF THE EDUCATION DEPARTMENT, IN ACCOUNT WITH THE PROVINCIAL TREASURY. CR.

1877.		$ cts.	$ cts.	1877.		$ cts.	$ cts.
December 31.	To payments by the Treasury made during the year, as per general Statement from the Treasury office			December 31.	By amount paid for Books, etc., imported	27,102 37	
					" do. purchased in Montreal	1,893 55	
	To payments for Salaries	59,986 75			" do. do. in Toronto.	25,828 57	54,824 49
	To do. for Contingencies	5,105 00			By amount paid for charges on goods from U. States and England	956 98	
		3,202 83	68,294 58		By amount paid for charges on goods from Toronto and Montreal	263 55	
					By amount paid for Customs duties	999 78	2,220 21
					By amount paid for Salaries	5,105 00	
					do. Office Contingencies	3,202 83	8,307 83
					By amount allowed to School Trustees, and charged to Depository Account, for apportionment of 100 per cent. on purchases made by them from the trade		2,942 05
	Total		68,294 58		Total		68,294 58

STATEMENT No. 8.

DR. CASH CURRENT ACCOUNT for the year 1877 of the Education Department of Ontario. CR.

1877.	Cash Receipts.	On Account of Depository.	From other sources.	1877.	Amounts Deposited to the Credit of the Treasurer.		
		$ c.	$ c.			$ c.	$ c
January and February	To amount received these months	9,489 33	4,604 91	January and February	By daily deposits during these months	14,094 24	
March	" Do. do. this month	3,210 25	2,734 06	March	" Do. do. do. this month	5,944 31	
April	" Do. do. do.	2,054 94	2,845 69	April	" Do. do. do. do.	4,900 63	
May	" Do. do. do.	1,849 96	1,123 11	May	" Do. do. do. do.	2,973 07	
June	" Do. do. do.	2,371 09	1,069 06	June	" Do. do. do. do.	3,440 15	
July, August and September	" Do. do. these months	5,204 42	4,940 26	July, August and September	" Do. do. do. these months	10,144 68	
October	" Do. do. this month	1,856 39	2,251 61	October	" Do. do. do. this month	4,108 00	
November	" Do. do. do.	3,342 86	1,839 33	November	" Do. do. do. do.	5,182 19	
December	" Do. do. do.	5,623 86	1,374 82	December	" Do. do. do. do.	6,998 68	
	The foregoing receipts for the year being classed under the following heads :—	35,003 10	22,782 85				57,785 95
	Normal and Model Schools	7,975 22					
	Superannuated Teachers	14,403 25					
	Journal of Education	22 23					
	Office Contingencies	189 32					
	Central Committee Refund	3 00					
	High and Public School Inspection	93 83					
	Museum and Library	96 00					
	Total as above		22,782 85				
	Depository as above		35,003 10				
			57,785 95				57,785 95

STATEMENT NO. 9.

THE DEPOSITORY BRANCH of the Education Department in account with Provincial Treasury, summarized for the whole term, from 1850 to 1877 (both inclusive).

DR.				CR.			
1850-1875.	To grant from Government (1850-67), received by the Depository, and expenditure through the Treasury (1868-1875) for the whole term 1850-1875 inclusive, as per Statement No. 29 of James Brown's, Jr., Special Report published in 1877	$577,627 42		1850-1875.	By amounts remitted to Receiver-General (1850-1867), and amounts deposited to credit Treasury (1868-1875), also by amounts of Legislative grant through Depository, as per Statement No. 29 of James Brown's, Jr., Special Report, published in 1877	$616,448 32	
1876.	To expenditure through the Treasury this year	45,447 53		1876.	By amount deposited to credit Treasury	36,315 15	
	To expenditure through the Treasury this year	3,369 25			By amount of Legislative grant through Depository	24,359 66	
1877.	To expenditure through the Treasury this year	54,824 49					
	To expenditure through the Treasury this year	2,220 21		1877.	By amount deposited as above	35,003 10	
		$683,488 90					
	To amount overpaid to the Treasury	52,070 92			By amount of Legislative grant as above	23,453 59	
			$735,559 82				$735,559 82

STATEMENT NO. 10.

EDUCATIONAL DEPOSITORY.—Stock Account on 31st December, 1876.

	$ cts.	$ cts.
TEXT BOOKS.		
Per Inventories this day	8,676 80	
Net Cash value		8,676 80
MAPS, APPARATUS, &c.		
Per Inventories this day	36,711 09	
Net Cash value		36,711 09
LIBRARIES AND PRIZE STOCK.		
Per Inventories this day	54,589 90	
Net Cash value		54,589 90
Net Cash value of entire Stock on hand		99,977 79
Deduct amout of outstanding accounts payable during the year 1877, and chargeable to Expenditure	20,190 00	
Adding 12½ per cent	2,523 75	
Net result		22,713 75
		77,264 04

STATEMENT NO. 11.

EDUCATIONAL DEPOSITORY.—Stock Account on 31st December, 1877.

	$ cts.	$ cts.
TEXT BOOKS.		
Per Inventory this day		
Net Cash value	9,815 49	
MAPS, APPARATUS, &c.		
Per Inventories this day		
Net Cash value	39,352 12	
LIBRARIES AND PRIZE STOCK.		
Per Inventories this day		
Amount	43,441 15	
Articles sent to Permanent Exhibition, Philadelphia	1,335 77	
do. to Paris Exposition	2,412 41	
		96,356 94
Deduct amount of outstanding accounts payable during the year 1877, and chargeable to Expenditure	6,211 37	
Adding 12½ per cent	776 42	
		6,987 79
		89,369 15
Deduct above Articles sent to the Permanent Exhibition, Philadelphia	1,335 77	
do. do. Paris Exposition	2,412 41	3,748 18
Net result		85,620 97

PRIZE AND LIBRARY BOOKS SUPPLIED THROUGH BOOKSELLERS, 1876.

	Vols.	Amount.
1. Nelson's Publications, Edinburgh	3168	$1299 03½
2. Routledge's " London	1003	438 03½
3. Nimmo's " Edinburgh	739	388 36½
4. Warne's " London	424	236 67½
5. Cassell's " "	507	219 00
6. Chambers' " "	136	102 05
7. R. Tract Society's " "	93	45 03
8. C. K. Society's " "	6	1 70
9. Various Publications, including Harper's, Longman's, Gall & Inglis, Oliphant, Nisbet, Partridge, Virtue, Griffin, Chapman, Seeley, Moxon, Blackwood, Ward, Lock, etc., etc., etc	1150	788 97½
Total	7226	$3518 86

PRIZE AND LIBRARY BOOKS SUPPLIED THROUGH BOOKSELLERS, 1877.

	Vols.	Amount.
1. Nelson's Publications, Edinburgh	5481	$2030 24
2. Nimmo's " "	2337	1044 15
3. Routledge's " London	2623	858 54
4. Warne's " "	582	339 83
5. Cassell's " "	340	202 34
6. R. Tract Society's " "	257	150 01
7. Chambers' " "	140	99 67
8. C. K. Society's " "	39	8 00
9. Various Publications, including Harper's, Longman's, Gall & Inglis, Oliphant, Nisbet, Partridge, Virtue, Griffin, Chapman, Seeley, Moxon, Blackwood, Ward, Lock, etc., etc., etc	1884	1125 48
Total	13683	$5858 26

(No. 25.)

Copies of the Writs of Elections for the Return of Members to represent the Electoral Divisions of Algoma and Muskoka respectively, at the last General Election for the Province of Ontario. (*Not Printed.*)

(No. 26.)

Report of the Counsel of University College, Toronto. (*Not Printed.*)

(No. 27.)

Return of all communications with the Government and the Crown Lands Department, in relation to the claim of George Hilliard to compensation in respect of the revocation of Timber License No. 143, Township of Cavendish. (*Not Printed.*)

(No 28.)

Return of all accidents and casualties (whether to life or property), which have occurred on the railways in the Province of Ontario, under the jurisdiction of the Legislature of the Province, for the year 1877, which shall set forth the names of the respective companies; the cause and nature of such accidents and casualties; the points at which they respectively occurred, and whether by day or night; the full extent thereof, and all the particulars of the same. (*Not Printed.*)

(No. 29.)

Copies of all correspondence between J. B. McWilliams, or John McDonald, or others, and the Commissioner of Crown Lands, or any officer of the Crown Lands Department, relative to the seizure of certain lumber of the said McDonald, or of Messieurs Gilmour & Co., for alleged non-payment of timber dues; and Copies of all receipts or vouchers for the payment of the dues or any portion thereof, for the non-payment of which such seizure was made. (*Not Printed.*)

(No. 30.)

Copies of all correspondence between Municipalities in the County of Simcoe and the Government, relating to the Nottawasaga River. (*Not Printed.*)

BINDING SECT. AUG 2 3 1967